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*General Report of Medical Diseases treated at the Kent and Canterbury Hospital, from July 1824 to the commencement of January 1825; with a particular account of the more important cases.* By H. W. CARTER, M. D., Senior Physician to that Institution, Fellow of the Royal College of Physicians, London, F. R. S. Ed. &c.

*Case of Ossification of the Pericardium, and of the Heart, with Enlargement of the latter.*

— Marsh, aged forty-three, was admitted July 30th, 1824, with general dropsy. He had laboured under palpitation of the heart for upwards of twenty years, and had, in the course of the few last years, been frequently under medical care. What seemed to have afforded him the most marked relief was bleeding. Upon his admission into the hospital, his countenance betrayed the utmost anxiety. His complexion was of a dusky yellow hue; his lips purple. He breathed with extreme difficulty in every position, and the recumbent posture could not be borne. There was strong and irregular throbbing at the heart, and the pulse at the wrist was weak and unequal, often almost imperceptible for a moment. His abdomen and lower extremities were considerably swollen. He passed little urine, and that high-coloured. His tongue was white; bowels costive. Under the use of digitalis and colchicum, with other diuretic medicines, occasional doses of elaterium, aided by two bleedings, he became so much better, that, on the 25th August, he requested to be made an out-patient. Scarcely, however, had he reached home, when all the symptoms became worse; and on the 23d September he was again admitted in a most deplorable state. The extreme

distress he experienced in breathing had, during his absence, been relieved for the moment by bleeding, but it quickly returned; and when he arrived in Canterbury, he was forced to kneel with his elbows on a chair, and even in that posture he could scarcely respire. Medicines, similar to those formerly prescribed, were resorted to in vain. It was found absolutely necessary to bleed him again; but the relief was very trifling, and in a day or two the arm assumed a gangrenous aspect. The patient died October 3d; and the following were the appearances, upon dissection, thirteen hours after death:—

The face and neck were of a livid hue. Upon opening the chest, we found a considerable quantity of fluid effused in it. The lungs on both sides adhered firmly to the pleura costalis; they were of much paler hue than usual, but otherwise healthy. The great disease, as was to be expected, was of the heart, and the membrane investing it. The latter was much thickened, and it every where adhered firmly to the heart. Upon dissecting it away, various portions of it were found converted into bone. The heart itself was more than double the natural size, and its surface presented many points of ossification: there was bony matter also in the left ventricle; but the substance of the organ was, in general, exceedingly tender, and the left auricle was so thin that, in all probability, had the patient survived a little longer, it would have given way. Neither the semi-lunar valves, nor the auriculo-ventricular valves, were in the least degree ossified. The abdominal viscera were, in general, healthy, only the liver was paler, and perhaps somewhat harder than natural. The gall-bladder contained several black, polished gall-stones.

In this case it required no extraordinary acumen to recognise the existence of organic disease of the heart. The patient himself was satisfied that he laboured under such disease, and stated that nearly twenty years ago he experienced exactly the same sensations, and seemed to have precisely the same symptoms with a young man who was in the same ward, and who appeared evidently to be labouring under enlargement of heart.\* The case just recorded is an interesting one, both on account of the very long period during which the patient struggled with the disease, and the rarity of examples

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\* The patient was perhaps right, and at the commencement of his disease, before the adhesion of pericardium and ossification of the left ventricle took place, his pulse might have been, like the young man's, regular, strong, hard, frequent, instead of weak, obscure, and irregular.



of ossified pericardium. In the elaborate treatise of Baron Corvisart, I do not find any mention of ossification of that membrane. Morgagni mentions the occasional conversion of a portion of it into cartilage, but not into bone. Dr. Baille states that he once saw an example of this disease; but the most satisfactory accounts of ossified pericardium which I have seen are in the *Sepulchretum*, vol. I. p. 583, taken from Thuanus; Walter's *Observationes Anatomicæ*, p. 63; and Brost's *Medecine Eclairée par l'Observation et l'Ouverture des Corps*, tom. i. p. 140.

*Sequel of the Case of John Lewin, mentioned in the Report of Diseases from January to July 1823.*

The patient having relinquished the habitual use of digitalis, in consequence of the alarming symptoms it had induced, found the oppression at the scrobiculus cordis more troublesome, and, indeed, almost insupportable upon any exertion. After trying the effect of other medicines, he resumed the digitalis, and was for some time relieved; but even this remedy failed for the last few months of his wretched existence. The symptoms formerly enumerated became more intense, and added to them was strong pulsation of the jugular veins and in the abdomen. At length he became universally dropsical, and died November 15th.

With some difficulty leave was obtained to examine the chest, about fifty-six hours after death. There was no fluid in the cavity. The lungs adhered very firmly on both sides, but they were crepitous, and altogether healthy throughout. The pericardium adhered firmly to the heart, and the latter was greatly enlarged and excessively loaded with blood. Its right side afforded no marks of disease; but the auriculo-ventricular valve of the left side was totally altered in structure, being partly cartilaginous and partly converted into bone, so that the valvular apparatus had become entirely useless. The aorta, just above the origin of the coronary arteries, was ossified to some extent, and it presented in various other parts traces of incipient ossification. The aortic valves were similarly altered in structure. The examination was not prosecuted further, by desire of the relations of the deceased; and, indeed, enough had already been discovered to account for all the symptoms, and for the death of the patient.

Thomas Fox, aged twelve years, was admitted September 25th in a state of extreme emaciation and debility, and having the appearance of one labouring under mesenteric disease. He had cough: excessive palpitation of heart, whic chonvey-

ed to the hand applied to it the sensation as if it were moving in a fluid. Moreover, the palpitation was so diffused, if I may be allowed the expression, that I concluded there was an enlargement of that organ. The pulse was at least 140, distinct and regular. The tongue florid. Bowels regular. Appetite good, and the patient slept well. He was bled to eight ounces, and the blood presented an appearance perfectly healthy. He was also ordered pills composed of digital. gr. ss., pulv. colch. gr. ij., every four hours; but as they seemed to disagree, causing nausea and depression, without the symptoms being at all relieved, they were omitted on the 30th, and inf. rosæ, with tinc. digital. were substituted for them.

October 1st.—He complained of sickness. The palpitation was very violent; there was heat of skin; other symptoms as before. Leeches were applied to the region of the heart; and afterwards the tartar emetic ointment was used till it produced a copious eruption.

15th.—He had spitting of purulent matter mixed with blood; and I then ordered a demulcent saline mixture with tinct. digital. The hæmoptoe did not return, but the boy gradually failed. There was clearly too much disease of chest to allow of a hope of amendment; and he was kept in the hospital chiefly for the purpose of ascertaining the disease after death, which happened December 11th.

*Examination five hours after death.*—Body excessively pale, and emaciation extreme. Strong adhesions of the lungs on both sides. The right lung healthy; the left converted almost entirely into a cavity containing pus. Pericardium contained considerably more fluid than natural, of a yellowish colour. Heart of natural size, and free from disease. Liver much enlarged, but healthy in structure. Spleen free from disease. The whole track of the intestines presented marks of inflammation. There was uncommon dryness of all the abdominal viscera, and adhesions of them to one another throughout. Mesenteric glands not much enlarged.

#### *On the Ointment of Tartarised Antimony.*

When I have once given a remedy a fair trial, and have satisfied myself that it is, upon the whole, a useful one in any particular disease, I am accustomed to adhere to it even if it be treated with neglect by other practitioners. Still, however, if it be approved of and adopted by intelligent medical men, I feel better satisfied. My opinion of the tartar emetic ointment, therefore, is fortified by my having read Mr. Crichton's paper respecting its use in epilepsy. His experiments were.



it seems, instituted at the Foundling Hospital in Dublin, July 1822, and in consequence, as he says, of Dr. Jenner's statement of the success he had met with from the first employment in several analogous complaints. The first case of epilepsy in which I found the ointment useful, was that of George Turner; and when I sent the history of his case to the Editors of the *REPOSITORY*, I imagined that the remedy, in its application to that disease, was a new one. I willingly, however, acknowledge that I was anticipated by Mr. Crighton—the more willingly, as he was led by analogy to employ it in epilepsy; whereas I discovered its power over that malady by accident, for, as was stated in my communication, I exhibited it, in Turner's case, principally with a view to a disorder of chest under which he, at that time, laboured. I hope that Mr. Crighton will hereafter furnish us with additional evidence in favour of the ointment. In the mean time, I beg to observe that the patient Turner has not had a fit since January 18th, 1824. A discharge is still maintained by the ointment; and when there have been indications of an approaching attack, he has been briskly purged, and leeches have been applied to the anus.\* In the case of Charlotte Howland, who had been the subject of epilepsy for twelve years, and who used the ointment for several months at intervals, there was no fit for fourteen months. The use of the tartar emetic was discontinued for some time previously to her being discharged from the hospital. In two other cases, the same application failed to remove the disease, but the attacks became less frequent.†

When using the tartar emetic ointment in epileptic cases, I have not desisted upon the eruption taking place, but have generally directed a piece of linen spread with it to be applied to the part when it could no longer be rubbed in, and when, owing to the burning heat and pain, this application could not be borne, fomentations and poultices have been resorted to, and afterwards the ointment has been resumed, from time to time, so as to keep up a drain for many weeks. The tendency of the eruption to spread beyond the limits of the anointed part, should be constantly kept in view. The ointment should not be rubbed over a large space. Mr. Crighton has noticed this tendency, and states that the eruption *most frequently* appears in very remote parts. I cannot say that I have observ-

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\* His head was speedily and essentially relieved by the leeches. February 7th, Turner was in better health than I had ever seen him.

† Several cases have since occurred, in which the ointment has been of great service.

ed this to be *generally* the case; yet once I saw, from the application of the ointment to the chest, a most copious pustular eruption upon the scrotum, while other parts of the body were unaffected. It may be worth while to remark, that in one instance sickness followed the use of the ointment. It was discontinued, and the sickness ceased, but recurred as soon as the remedy was resumed.\*

No. V. *Case of Abscess of Liver.*

Stephen Hammond, aged forty-five, was admitted May 21st, with diseased liver. Several years ago the man had been dropsical, but had recovered under the treatment of a Practitioner of deserved repute in this neighbourhood. He stated, that he had continued in tolerably good health until about a month previously to his admission here. He had been under the care of another Surgeon, by whom he had been treated very judiciously.†

Upon his admission the patient was in a state of remarkable debility, and there was great enlargement and hardness about the region of the liver.

On the 25th, there was much vomiting of dark fluid, mixed with blood. There existed great fulness and tenderness of the hepatic region; but I could not at this period satisfy myself that suppuration had taken place. The tongue was moist and florid. Pulse 72, and hard. Bowels not relieved for two days, and the patient asserted that he had passed no urine for four days. The countenance was flushed, and the expression anxious. There was cough, with some expectoration, but of mucus only. His appetite was bad, and he got little sleep. He took small doses of calomel, with extract. conii;—inf. calumb., cum extract. taraxaci, potass. subcarb., sp. æther. nitr., ter die. Mercurial ointment was also rubbed on the side.

29th.—Urine was very dark, highly charged with bile, and depositing a copious dark sediment. Pulse 72. Tongue clean. Motions very unhealthy, of a muddy colour, and slimy. Distressing nausea and retching.

June 7th.—The mercury had affected his mouth. The tumour seemed more prominent. There was excessive weak-

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\* In my next report I shall lay before the public two or three more cases of epilepsy, in which the tartar emetic has been advantageously employed.

† General and topical bleedings, blisters, mercurial purges continued and repeated, pil. hydrarg. in small and continued doses, digittalis, colchi, cum, and saline medicines.



ness and irritability of stomach. He had for several days mere effervescing draughts. Afterwards I gave him tonic medicines, but was compelled to abandon them and to return to the draughts.

25th or 26th.—I again examined the tumour, which now pointed decidedly. Unwilling, however, that the abscess should be opened without a consultation, I requested the other medical officers of the hospital to see him. They unanimously agreed that it ought to be opened, and on the 28th five pints of pure pus were evacuated.

July 2d.—On this day about ten ounces of greenish, very fetid matter were evacuated. The patient had much cough, with abundant mucous expectoration. Pulse accelerated. Tongue clean. Skin hot. Considerable perspiration last night, and he was disturbed by the cough. Bowels act freely. Evacuations clay-coloured. Urine of a more healthy appearance. Continuentur haustus effervescentes ; sumat hora somni mist. demul. salic. cum tinct. opii g<sup>tt</sup>. xxv.

3d.—Ten ounces of green and intolerably fetid pus discharged this morning. Some sleep last night, but his countenance is now expressive of anxiety. There is great debility, with tremor, and total loss of appetite.

R Pulv. Cinch. 3ij.

Vini Rubri Lusitan. 0j.

Infunde per horas octo, et sumat liquoris colati f. 3ij. ter quaterve die.

R Mist. Camph. f. 3x.

Spirit. Ammon. Aromat. f. 3j.

Tinct. Opii g<sup>tt</sup>. xxv.

Pulv. Myrrhæ gr. xv.

Sp. Lavand. C. 3j. M.

Ft. haustus hora somni sumend.

Wine and portes ad libitum.

4th.—Sixteen ounces of healthy pus evacuated. On the following day the myrrh was omitted, as it seemed to oppress the stomach, and a dram of Hoffman's anodyne was added to his night draught.

By the 15th there was hardly any discharge, except upon coughing. The bougie, which had been hitherto retained in the opening, was now removed.

20th.—Little discharge from the wound. His pulse was natural. Tongue clean. Cough less. Expectoration trifling.

Bowels kept open by medicine, and dejection healthy. Urine perfectly natural. Perspiration diminished. Appetite good.

24th.—Little discharge. Pulse 74. Symptoms all favourable.

He remained in the hospital till September 17th, when he was made an out-patient.\*

November 12th.—He seemed to enjoy pretty good health, though his living had, of course, been less generous since his quitting the hospital. The discharge, which at one time had nearly ceased, was now again more copious, and he felt better. He was directed to continue a mixture he had been taking for some time, and which consisted of bark, with myrrh, and tinct. of bals. of Peru; an opium pill at night, and laxative occasionally.

December 17th.—Dropsical symptoms had again appeared. The abdomen was considerably swelled, and the lower extremities were anasarcaous. He was ordered pil. hydrarg. with digital., and a mixture with inf. armorac. c., sp. æth. nitr. sp. junip. c.

January 8th, 1825.—The patient is much relieved. The dropsical symptoms are nearly gone. There is still some discharge from the right side, but it is trifling in quantity. His general appearance is very favourable. He continues the mixture and the digitalis; but, his mouth being affected, the blue pill is omitted.†

#### No. VI. *Ascites, with Anasarca.*

Sarah Hatton, aged thirty-seven, married, was admitted June 22d, with dropsy, depending upon great debility, from low living, and lactation. The swelling of abdomen was not very considerable, though fluctuation was sufficiently distinct; but the lower extremities were much distended, and of marbly whiteness. Pulse 120, and very feeble. Tongue white and dry. Respiration hurried. Bowels disposed to costiveness, but, at the period of her admission, open by medicine. Evacuations dark. Urine scanty, high-coloured; and depositing a brownish sediment. I was unable to detect any visceral disease. Viewing this as a case of pure debility, I first prescribed an electuary of ferrum tartariz. et potass. supertart.

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This patient was seen by Dr. Copland when he visited our hospital last summer.

† The sequel of the above case will be given in a future report.



cum syr. aurant.,\* two tea-spoonfuls to be taken every four hours, and the following draught at bed time :—

R Camph. f. 3x.  
Tinct. Cantharid. g<sup>ss</sup> xv.  
P. I. C. ʒss.  
Syr. s. f. 3j.

She had also full diet, and Hollands and water for common drink.

The electuary, however, excited nausea and retching, and on the 24th the ascites was certainly increased. The former medicine was now discontinued, and mist. camph. cum. inf. digital., spirit. æther. nitr., potass. acet. 3ss., and olei junip. g<sup>ss</sup> v. was given every three hours, and mistura camph. cum confect. aromat., vini colch. f. 3j. liq. ammon. acet. f. 3ij. extract. hyoscy. gr. iij. syr. papav. f. 3j. every night. Imperial was ordered for common beverage.

In a few days the dropsical swellings began to decrease, but there remained great difficulty of respiration, to which the patient had been subject previously to her present illness. The medicines were continued, and pills were ordered at bed-time, containing the extract. of stramon., hyoscy., and conium, with pulv. ipec. c. A blister was applied once and again to the chest.

July 12th.—As she continued very weak, the former mixture was discontinued, and she had mist. camph. cum decoct. cinch., sp. æther. nitr., tinct. scillæ, et oxymel. colch., tertius horis. The anodyne pills were continued, with the substitution of five grains of camphor for the Dover's powder.

19th.—The dropsy had totally disappeared, but the difficulty of breathing continued, and sometimes was extremely urgent, almost amounting to spasmodic asthma. She complained of general debility, and particularly of pain of knees, for which the volatile liniment, with tinct. canth., was ordered.

On the 26th there was a violent paroxysm of dyspnœa, with retching. The lower extremities had again become somewhat anasarcaous, and the urine was diminished in quantity, and high coloured. Mist. camph. cum liquore ammon. acet., sp.

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\* The electuar. tartari cum ferro tartariz. of St. Bartholomew's Hospital.

R Potass Supertart. ʒij.  
Ferri Tart. 3iss.  
Syr. Aurant. vel Zingib. q. s. Misce.

æth. comp., tinct. scillæ, ter die. Pil. galb. c. ʒss mane et hora somni. Omit. cætera.

23th.—The former mixture not agreeing, inf. rosæ cum tinct. hyoscy. and tinct. card. was substituted for it. Wine and water, beef tea, and arrow root, were directed as nourishment.

August 13th she was made out-patient.

September 3d she was discharged, cured.

December 15th I saw the patient, who told me she was in better health than she had enjoyed for several years before.

#### No. VII. *Ascites, with Anasarca.*

John Hobday, aged thirteen, post-boy at a public-house, was admitted out-patient, November 12th, with ascites, and anasarca of lower extremities and scrotum. The lad was very pale and weak. He had been affected, previously to the dropsy appearing, with constipation and dyspepsia. He had lived very low. He was first ordered calomel, gr. iij., cambog. gr. v., mucil. trag. q. s., ut fiat pil. ij. statim sumend: then mist. ferri c. f. 3jss., tinct. digit. g. x., quarta quaque hora.

19th.—The swelling was considerably diminished, and the quantity of urine increased. Bowels rather costive. Pergat., et sumat extract. col. c. ʒss. pro re nata.

26th.—On this day, as the dropsical symptoms were almost gone, I prescribed a bark mixture, with confect. aromat. and sp. lav. c., and pil. ferri cum myrrha, ʒss. mane et nocte; but the following week he was manifestly worse. The mist. ferri c. with tinct. of digital. was then resumed, and he took pil. aloes cum myrrha, ʒss. alternis noctibus. On the 10th December he was discharged perfectly free from complaint.

In this case tonics alone did harm, and the state of the patient was such that depletion and sedative medicines would have been still worse. The combination of the steel mixture with digitalis produced an unequivocal good effect; and this is only one out of many cases in which I have proved its value.

#### No. VIII. *Case of apparent Phthisis Pulmonalis, with Disease of Mesenteric Glands.*

James Tapley, aged ten years, admitted out-patient June 18th, afforded a truly remarkable instance, I will not say of recovery, but of very great improvement, from what appeared to be confirmed phthisis with mesenteric disease. The lad had been ill for a twelvemonth, and was in a state of the utmost debility, with cough, and seemingly purulent expectoration, rapid pulse, moist, florid tongue, tumid abdomen, and pain and irregular action of bowels; great emaciation. Ac-



according to the mother's account, six of her children had died of similar complaints. *Sumat hora somni haustum demulc. salin. cum extract. hyoscy. gr. iij. syr. papav. f. 3j. ; et liquoris calcis muriat. m xxx. ter die e lacte.*

25th.—Symptoms appeared to be on the increase, and he complained of great pain of epigastric region. No rest owing to the cough. *Cont. liquor. calcis muriatis, et sumal omni nocte mist. amygd. cum acidi prussici m iij., syr. tolut. f. 3ss. ; appl. epigast. emplast. cantharid.*

July 2d.—Improved. Bowels rather costive, and abdomen tumid.

*R Hydrarg. Submur. gr. ij.*

*Pulv. Rhei, gr. vj.*

*Pulv. Cinnam. C. gr. ij. M.*

*Ft. pulvis hac nocte sumend.*

From this period the patient went on steadily improving. No alteration was made in the medicines, excepting that the prussic acid was increased to *miv.* on the 9th ; and as he complained of pain of the lower extremities, he had the liniment. *saponis cum opio.*

August 27th.—He was discharged. He was then able to return to school, and I afterwards saw him playing among the other boys. About the middle of December he continued comparatively well, still attending his school ; he, however, had a troublesome cough ; and I have little doubt he will, at some future period, be again a patient at the hospital.

February 20th.—The boy continued in good health.

#### No. IX.

John Matthews, aged fifty-seven, the father of the girl mentioned in my last report as having been cured of recent bronchocele, by the use of the ointment of hydriod. of potash, was admitted into the hospital June 18th, with ascites. Paracentesis was performed without delay, for diuretic and other medicines had been exhibited without effect previously to his admission. When the fluid was evacuated, the cause of the dropsy, which the great and uniform tension of the abdomen had before obscured, became sufficiently manifest. There were enlargement and induration of liver, and undoubtedly, I think, disease of the glands of the mesentery. Mercurial friction was used ; blue pill with extract. conii, and various other remedies, were tried without the smallest advantage ; and on July 2d he was, at his own request, made out-patient. He afterwards used the iodine ointment, and took *g<sup>ss</sup> v.* of the

tincture thrice a day ; and it is chiefly on account of this medicine having been employed that I have given a sketch of the case. It was, in fact, a hopeless one. I wished to see, however, whether the iodine would make any impression upon the chronic abdominal disease. It certainly failed to do so, and its internal employment probably did harm, for it affected the bowels and caused soreness of throat ; and I was obliged to relinquish it, as I have been in several other instances. Dr. Coindet has, I believe, abandoned the internal use of iodine altogether ; and my limited experience of its effects would induce me to follow his example. The ointment, in the case before us, produced a very copious pustular eruption, almost exactly resembling that produced by the tartar emetic. No relief of the internal disease followed.

#### No. X. Case of *Lepra*.

Isaac Jarman, shipwright, of Ramsgate, was admitted August 13th, with well characterised lepra of three months' standing. The disease was, according to the patient's statement, hereditary. He had worked very hard, and had lived low. The ung. hydrarg. prussiat. was ordered to the parts chiefly affected ; and he took gr. viij. of the pil. hydrarg. submuriat. c. every night, and decoct. dulcamar. f. 3iiss. cum liquoris potassæ mxx. ter die. I also directed the sulphuretted bath. He was put upon full diet, with porter.

23d.—Little or no improvement. I now prescribed decoct. cinch. cum extracti ʒss. ; liquor. potass. oxymur. f. 3iij.\* ter die. Pil. hydrarg. gr. vij. ; extract. conii gr. v. omni nocte. The ointment was continued.

September 7th.—He was certainly better, and I discovered that he had amended from the 1st, when the bath was employed for the first time. From this date he continued steadily to improve ; was made out-patient, at his own request, on the 22d, and on the 8th October he was discharged cured.

This was an extremely well-marked case ; and the cure was complete, and, as far as I can tell, has been permanent ; but whether permanent or otherwise, it was *ipso facto* a cure.

In the case of Mary Francis, aged seventeen, affected by psoriasis diffusa of recent date, the decoct. dulcamaræ, with the solution of oxymuriate of potass, and Plummer's pill, were given, the former thrice a day, the latter at bed-time. Unguent. hydrarg. nitr., ung. hydrarg. præcip. albi, partes, æquales, were used to the parts chiefly affected, and she had

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\* A saturated solution of oxymuriate of potash in distilled water.



the warm-bath. The bath, however, we were obliged to relinquish in a few days, as the patient's head became affected and epistaxis occurred. Leeches were applied to the temples, and the medicines just mentioned were continued.

On the 8th October she was discharged, cured.

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## II.

(From the Edinburgh Medical and Surgical Journal.)

*Official Report on the Fever which appeared on board his Majesty's Ship Bann, on the Coast of Africa, and amongst the Detachment of Royal Marines, forming the Garrison of the Island of Ascension, in the year 1823.* By WILLIAM BURNETT, M. D. &c.

This slender volume is valuable on account of the authenticity of the statements it contains, and the temperate judgment of the author. One fact recorded in it is particularly valuable, because the circumstances connected with it can so rarely occur, and are exactly those which seem to constitute, if any circumstances can constitute, an *experimentum crucis* as to the supposed contagious nature of any disease.

The Island of Ascension was uninhabited until 1815, when Bonaparte was sent to St. Helena, and it became a matter of precaution to occupy Ascension with a few British troops. Till this time it was only visited during the turtle season, for the sake of that fishery, so that there existed no source of disease as derived from its being the habitation of man, or domestic animals. After it was occupied, the troops were liable to all the endemic causes of disease, arising from the soil, the climate, and season of the year. As might be expected, the amount of disease derived from these sources would vary somewhat in different years; but an unprecedented diffusion of disease, and increase of mortality, occurring in such a situation immediately after the arrival of a vessel with a sick crew, give the strongest presumption that the arrival of the vessel, and the increased sickness, were connected as cause and effect; or, in other words, that a contagious disease had been imported. Such appears to have taken place after the arrival of the Bann, a sick ship from Sierra Leone. During the seven preceding years, 12 died, and of these only 2 from fever; but in two months after the arrival of the Bann, there died, of a fever having the same character as that which prevailed in that vessel, 15 of the garrison, besides 2 boys and 4 women.

We quote the account of the medical topography of this singularly situated spot of land in the middle of the ocean.

"The island of Ascension, in circumference about twenty miles, is situated in the ocean, in lat. 08 degrees 56 minutes south, longitude 15 d. 27 m. west, at the distance of many leagues from any other land, with a trade wind from the south S. E. constantly blowing over it; and being of volanic origin, nearly the whole of its surface, except the Green Mountain, has a corresponding appearance, being (as in the neighbourhood of the garrison) of a dry, arid and barren nature, with volcanic stones overlaying a quantity of mouldering pumice. On some of the more elevated spots it is composed of ashes which extend to a considerable depth; still there are a few places where a fine light mould is met with about half a foot below the surface.

"At this island, in the month of April, the thermometer in the shade stands, from noon till nearly 2 P. M. at from 85 to 88 d. generally 87; and as the evening advances, gradually falls to between 76 and 80 d. About two o'clock in the morning, a further reduction of one or two degrees takes place, which continues till 5 A. M. when the heat progressively advances till mid-day. In May the heat generally declines a little, and is commonly from 84 to 85 d. in the day, and from 75 to 76 d. at other times, which is probably owing to showers of rain, which prevail at this season.

"With respect to the heat of the summer in general, a sensible increase takes place in December, the thermometer being at noon, towards the end of the month, at 86 d.; in January it advances about two degrees; and in February, and till the middle of March, it is often found at noon to have attained to 90 or 91 d., sometimes 93, and at these times the dews are heavy, and are seen in the morning. It appears, that in general the rains are not of long duration, though commonly heavy; pools of water are sometimes formed, but disappear in the course of a few hours; these rains, however, occurring for the most part at the turtle season, appear to have produced occasionally attacks of fever and dysentery, and it was at this period the Bann arrived,

"The posts occupied by the detachment, which consisted of thirty-five officers and men, were three in number, namely, the principal one or barrack, which is situated low, and surrounded by high grounds, about one hundred yards from the sea, is formed by several detached houses nine or ten feet square, and a large barrack-room, which is forty feet long and



fifteen broad: in this last there were about sixteen people residing. The several buildings are arranged in the form of a square, the smaller ones being occupied for stores, or by families, and the quarters of the officers are situated on the elevated ground to the south-east of the square, about twelve feet above it, and there the temperature was about two degrees lower.

"In the front of this barrack, and about one hundred yards from the sea, a well was dug, by the first garrison, about fifteen feet deep, being three feet below the level of the sea, in the hope of obtaining fresh water by its percolation through the sand; it was found, however, to be perfectly unchanged, rising and falling with the tide, on the reflux of which the well was left nearly dry, and the water remaining in it foul and offensive.

"The post called Springs is situated at the distance of four miles and a half in a S. E. direction from the barracks, being at an elevation of about nine hundred feet above them, and, with regard to the soil, corresponds, on its surface, in many places, with the neighbourhood of the barracks. There, however, the thermometer is commonly two degrees lower, and the relative variation is still greater in the twenty-four hours, being often in a ratio of 9, 10, and 12 d. In some places the ground is covered with a superficial layer of earth, with here and there spots favouring vegetation. The same kind of volcanic ashes are also met with, but they are more compactly united; and the people lived in caves, hollowed out of this substance, in the sides of the mountain.

"The post on the Green Mountain, being about 2500 feet above the level of the sea, is situated immediately above Springs, at the distance of nearly a mile; and, on ascending thereto, the ground is seen completely to change its character. All trace of volcanic matter is lost; and it presents to the view a mass of calcareous rocks, covered to a great extent with a thin surface of earthy soil, which throughout the year is favourable to vegetation.

"This post is for days enveloped in clouds, occasioning catarrh and rheumatism; but the soil remains dry. The heat is from four to five degrees lower in the day than at the garrison, and at night from eight to nine. In July and August, the thermometer often stands at 65 d. in the morning, and the maximum is 87. In February and March, the hottest season, the greatest height it attains is 85 d."

The following is an abstract of the state of health from 7th March 1816, to 7th May 1823, or during seven years.

Disease.	Put on the sick List.	Dischargd to Duty.	Invalided.	Died.
Continued Fever - - -	10	9	-	1
Bilious Remittent Fever -	11	10	-	1
Fever - - - -	2	2	-	-
Dysentery - - - -	44	34	3	7
Diarrhœa - - - -	3	3	-	-
Cholera - - - -	3	3	-	-
Pneumonia - - - -	6	5	1	-
Chronic Hepatitis -	24	13	10	1
Rheumatism - - - -	6	4	2	-
Apoplexy - - - -	1	-	-	1
Epilepsy - - - -	1	-	1	-
Paralysis - - - -	1	1	-	-
Ophthalmia - - - -	1	1	-	-
Asthma - - - -	1	-	-	1
Vertigo - - - -	1	-	1	-
Inguinal Hernia - -	1	1	-	-
Fistula Lachrymalis -	1	1	-	-
Coup de Soleil - -	1	1	-	-
Pulmonic Inflammation -	2	2	-	-
Scurvy - - - -	3	3	-	-
Fracture - - - -	3	2	-	-
Wounds and Accidents -	3	2	1	-
Other Complaints - -	3	3	-	-
Total	132	100	19	12

On the 27th of March, 1823, the Bann sailed, with a sickly crew, from Sierra Leone, and arrived at Ascension on the 20th April. At the time of the Bann's arrival, the inhabitants, consisting of a garrison of 35 marines, officers and men, with some women and children, were in good health. We have now to observe what followed.

“The report of Mr. Thompson, the medical officer of the garrison, states, that the appearance of the fever amongst them is dated eighteen days after the arrival of the Bann, viz. on the 11th of May; but he adds, however, that one of the people was attacked as early as the 28th of April with symptoms of fever, which he then thought might be a mild case of the Bann's, which was scarcely above two days after the landing of the sick. The man thus attacked was convalescent on the 7th of May. On the 11th of May, a boy (son of one of the



sergeants) was violently attacked, and ultimately died ; but it is neither known nor believed that he had any near communication with the sick of the Bann, than passing daily at no great distance from the tents to feed his father's poultry, and he was never on board that ship. Up to this time the restrictions on the intercourse between the ship herself and the garrison had not been much attended to, and certainly not at all as regards the communication of the garrison with each other ; several things, such as sideboards, &c. had been landed from the Bann, which had been brought by her from Sierra Leone, and some of the officers and men had gone on board that ship (after the sick were landed) to the sale of the effects of some deceased person. From this time, however, every proper precaution was taken for preventing the extension of the disease to the outposts ; notwithstanding which, six men, two women, and seven children, were taken ill at Springs, but fortunately none at the Green Mountain, though one of the men belonging to that post had been on board the Bann, at the sale before mentioned. Some days after the arrival of the Bann, Captain Phillips took up his residence at Springs ; but, though he was much indisposed with a low fever, both the surgeon of the Bann and the assistant of the garrison are of opinion, that he did not suffer from the prevailing fever.

“ About this time, the fever in the Bann had nearly ceased ; but it went on, daily attacking some of the garrison ; and it appears, by the official report, that twenty-eight were taken ill, of which number fifteen died, and thirteen recovered. Independently of the officers and marines above stated, two boys were attacked, both of whom died : and of six women, four died : seven children likewise suffered attacks of this fever, all of whom recovered ; but, unfortunately, three younger children, the eldest being only four months old, died from want of their usual sustenance, after the demise of their mothers.”—

The disease ceased in the island about the 16th June.

The progress of the disease on board of the Bann, is described in the following extracts :

‘ His Majesty's sloop Bann anchored off Free Town, Sierra Leone, on the 11th of January 1823, and continued there until the 25th of March, her ship's company on board being in excellent health. On this day, one case of fever, having severe inflammatory symptoms, was put on the sick list, and the patient died on the 30th, the fifth day of his illness. On the 26th, the master and two seamen were attacked in the same manner, and recovered. On the 27th, the Bann sailed from

Sierra Leone.”—“Between this time and the 31st of March, three more cases occurred on board the Bann. On the 31st, one case of the same kind was added to the list; and on the 3d of April, four more of her people were seized with the same complaint.

“From this time the sick list rapidly increased, and, according to the account of Captain Phillips, beginning forward in the ship, came gradually to the after part, till nearly all the officers and men were attacked; indeed, when it ceased, at Ascension, only about sixteen had escaped of the officers and ship’s company. The total number attacked was ninety-nine, of whom thirty-four died, fifteen of them before the Bann reached Ascension.”—“The ship was ordered to St. Thomas’s, but from the unhealthy state of the crew, and the bad weather, it was deemed advisable to proceed directly to the Island of Ascension; and on her arrival at that place, on the 25th of April, tents were immediately erected on shore, at the distance of nearly five hundred yards from the garrison; with which all intercourse was interdicted, and the whole of the sick, amounting to forty-five, labouring under the prevailing fever, were landed, and placed in the tents provided for them.”

From these facts Dr. Burnett draws a conclusion, in which we cannot but concur.

“There cannot, however, I think, be a doubt of its having possessed contagious properties afterwards, and of its having been introduced into the Island of Ascension by the Bann; still, even here, difficulties occur in accounting for many circumstances, particularly the attack of two posts, and the exemption of a third, viz. the Green Mountain (where there were six soldiers, one woman, and two children), when the communication was open for eighteen days, and one of these persons had even been on board the Bann for some time. I have, however, formed my own opinion, from a consideration of all the circumstances of the case; and I have narrated the whole of the facts connected with it, as far as they have come to my knowledge, with the utmost impartiality, without suppressing or distorting one of them; and I must, after they have read the remainder of this Report, leave others to form their own.”

There are some other interesting facts and statements in this volume, tending to support our author’s opinion, that the yellow fever, as it is called, is not *ab origine* contagious, but may become so under particular circumstances; but we decline entering upon them, as we wish to present our readers with the preceding observation, alone and distinct from every



other, which might give opportunity for that special pleading which rather displays the ingenuity of the partisan, than advances the progress of knowledge.

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## III.

(From Anderson's Quarterly Journal of the Medical Science.)

*Clinique Medicale, ou choix des Observations recueillies a la Clinique de M. Lerminier, Medecin de l'Hopital de la Charite et publiees sous ses yeux. Par G. ANDRAL, Fils. Tome II.*

We have great pleasure in directing the attention of our readers to the volume before us. M. Andral, junior, has already established his character as a man of talent, and an accurate pathologist, by his description of the morbid appearances of the gastro-intestinal mucous membrane, and by the first volume of the "*Clinique Medicale*." The present volume forms a valuable addition to the pathology of the chest. Combining a talent for minute and patient observation of morbid appearances, with ingenious pathological reasoning, its author will not shrink from comparison with the most eminent writers in this department, of which the French school so justly boasts. The facts he records supply many of the lacunæ left by MM. Bayle and Laennec, in the pathology of the organs of respiration. They also enable us to form a more impartial estimate than hitherto, of the real value of the diagnostic instrument, contrived by the latter, at least, so far as diseases affecting *respiration* are concerned. Equally free from indiscriminate scepticism, or (on a subject of so great practical moment) that still more unpardonable indifference, so generally prevalent in this country; and on the other hand, superior to the indiscriminate zeal of a partizan, or the slavish credulity of a pupil, M. Andral has observed for himself, and judged for himself, on the value and merits of the stethoscope in the diagnosis of the different diseases that come under his review. The present volume is entirely devoted to diseases affecting the organs of respiration, which are arranged under three heads, corresponding to the three pulmonary tissues:—1st, diseases affecting the lining bronchial membrane; 2d, affections seated in the parenchymatous structure of the lungs; and 3d, in the pleura. We shall present our readers with an abstract of our author's most important observations on these different

subjects in their order; only premising, that he does not profess to give a *complete* history of the diseases of which he treats; but rather records a series of original observations made at the bed-side, and on the dead body, arranged, for the sake of perspicuity, under the above heads.

I. *Bronchial Affections*.—Commencing with the *organic* changes induced by inflammation in the pulmonary lining membrane, we are informed, that when a person, labouring under recent bronchitis in a mild form, dies from any other disease, redness is found in a portion of the mucous membrane, generally circumscribed, and near the termination of the trachea, or in the *larger* bronchiæ. In more intense inflammation, the redness is more extensive, and occupies even the minutest bronchial ramifications. It is sometimes strictly limited to the bronchiæ of a single lobe, which is most frequently the superior. The redness may depend on a crowd of minute vessels, ramifying both on the surface of the mucous membrane, and in the subjacent cellular tissue; or there may be no distinct vessels, but merely a crowd of minute red points or dots; or lastly, there may be a uniform uninterrupted red blush, like that of erysipelatous inflammation. Sometimes, as is common in inflammation of the intestines, there are a number of distinct inflamed patches, the intervening spaces being natural.

In *chronic* bronchitis, the membrane is seldom bright red, but frequently presents a livid, violet, or brownish hue. In a considerable number of cases, however, presenting all the characters of inveterate chronic bronchitis, with purulent expectoration, the membrane is found perfectly pale throughout its whole extent; a fact previously noticed by Bayle, and which is analogous to the appearances left by chronic and even acute inflammation in its latter stage, in many of the other membranes, both serous and mucous.

*Ulceration* of the pulmonary mucous membrane is not of frequent occurrence. Most common in the larynx, it diminishes in frequency as we descend to the trachea, and in the bronchiæ is *extremely rare*. M. Andral has met with it in this latter situation only twice; in both cases, the ulcers were small, circular, and defined, with elevated edges; in one, it was indicated by the common symptoms of chronic bronchitis, in the other, it was concomitant with diseased heart, and accompanied with violent fits of coughing, and expectoration of reddened *sputa*.

*Thickening* of the coats of the bronchial canals, producing stricture or diminution of their calibre, is another, and not un-



frequent, effect of inflammation, and may be seated either in their mucous membrane, or ligamentous structure. This thickening of the mucous membrane may be so considerable, as nearly or wholly to obliterate the cavity even of the larger trunks. In one remarkable case, the principal branch going to the right superior lobe was found so much contracted near its origin, as to admit with difficulty the point of a fine probe. The stricture consisted wholly in a thickened state of the mucous membrane, the fibrous tunic being natural. It was of small extent, and terminated abruptly, the tube immediately resuming its former diameter. During life, as may be readily conceived, no distinct sign could be obtained from percussion (the integuments of the thorax were however œdematous.) Auscultation revealed a diminution of the respiratory murmur throughout the whole extent of the affected lobe; a sign, however, by no means characteristic of the affection in question, but common to several others, which produce changes in the mechanical condition of these canals. Finally, this patient had a strongly marked sense of constriction, referred distinctly to the affected part of the chest; he observed that he "felt as if he did not breathe by the right side;" sensations, however, which it is proper to know, are not peculiar to this affection, but may be produced by whatever cause prevents the free ingress of air into any part of the lungs. Contraction of the bronchial tube is sometimes, though not always, indicated by a peculiar modification of the respiratory murmur, called by M. Laennec "*râle ronflant*," and by M. Andral "*râle bronchique sec*," in contradistinction to the peculiar rattling noise produced by effused mucus.

*Dilatation* of the bronchiæ is a frequent consequence, or at least concomitant, with chronic inflammation. For the discovery and accurate description of this morbid state, we are indebted to the pathological acumen of M. Laennec. He had, however, very few opportunities of observing it. The vacuum he has necessarily left in its history has been ably filled up by a series of interesting cases and dissections, by M. Andral. For the detail of these we refer to the work itself, as our limits admit of only a general sketch of the results. Bronchial dilatations then, viewed either in relation to morbid structure or to symptoms, may be reduced to three varieties: 1st. one or more of the bronchiæ presents throughout its whole extent a uniform increase of calibre. Thus we find the branches formed by the fourth, fifth, or sixth subdivision of the bronchial trunk of either lung, to equal, or even exceed, the diameter of the trunk itself. This is an extreme case; generally the dila-

tation is by no means so great. Sometimes the dilatation is confined to a single branch, sometimes it extends to several collateral branches, or to all those of one lobe. This species of dilatation is less opposite in its nature to *contraction* of the bronchiæ than at first sight appears. It is not a mere passive or mechanical result of distension from habitual coughing, or the accumulation of mucus; on the contrary, the walls are often thicker than in the healthy state; the mucous membrane is augmented in firmness and density, and is sometimes ulcerated; the ligamentous or fibrous coat, which, in the healthy condition of the smaller bronchiæ, is very fine and thin, has become firm and thick; and the cartilages which should here appear in the form of minute insulated granules, are more fully developed; in short, the whole affected vessels have undergone what John Hunter would have called "an act of dilatation," analagous to the active aneurism of Corvisart, or the "hyperthrophie avec dilatation" of Lænnec and the recent French pathologists. This species of dilatation, when slight in degree, or of small extent, can with difficulty be detected by any symptom during life. When more extensive it is indicated by a set of sufficiently characteristic symptoms. It gives rise to that peculiar resonance of the voice, as heard through the stethoscope, called pectoriloquism, which is also one of the leading signs of tubercular excavations; sometimes, also, there is heard a very distinct mucous rattle, similar to the gurgling noise heard in tubercular cavities filled with fluid; sometimes instead of this, there is that peculiar *puffing* noise, heard in *empty* tubercular cavities. In the *second* variety of bronchial dilatation, instead of a uniform expansion of one or more bronchial canals throughout their whole extent, the walls of one of the bronchiæ are suddenly dilated into a circumscribed pouch, which is sometimes as large as a nut, and compresses the surrounding cellular texture. This cavity might at first sight be mistaken for an empty tubercular excavation, communicating with one of the bronchiæ; but on more minute examination, it is discovered to be simply a *dilatation*; both the mucous membrane and fibrous structure are recognized as entering into its composition; and instead of forming a cul de sac, it gives off numerous branches, the minute orifices of which are, on careful inspection, discovered on its inner surface. The diagnostic of this species varies in difficulty according to its size and situation; and the modifications, both of respiration and voice, to which it gives rise, resembling closely those of a tubercular excavation, there is a possibility of confounding the two affec-



tions. In the *third* variety of bronchial dilatation one bronchial tube, when traced through its whole extent, presents a knotted appearance, owing to a series of alternate dilatations and contractions. When a portion of lung thus affected, is cut in different directions, the cut surfaces appear as if studded with numerous small white tumours which, when laid open, are found to be small cavities filled with pus, and continuous with the minute bronchiæ, of which they are manifestly dilatations. The walls of the cavity in this third species of dilatation are not thicker, but thinner than in their natural condition; and M. Andral considers it as the mechanical result of distension from mucus or pus. Auscultation, it may readily be conceived, throws no light on the existence of this form of the disease.

M. Andral next considers the changes induced by inflammation, in the bronchial *secretion*. In the incipient stage of acute bronchial inflammation the cough is dry, except in those persons who, even during health, have an expectoration from the bronchial membrane, or those previously affected with chronic catarrh or bronchitis. At the termination of an uncertain period, each fit of coughing is followed by the expectoration of a clear, transparent, glairy, mucus, like white of egg. It is very tenacious, and when poured from one glass into another, flows in a continued mass: It may be drawn out into thin threads, and in water, sometimes assumes the form of a fine thready web. When the cough is very severe, accompanied with much sense of heat within the chest, with marked oppression, and great general anxiety, the sputa become extremely viscid and tenacious, being detached with difficulty from the sides of the glass, and approach in appearance the gelatinous sputa of acute pneumonia. When bronchitis is attended with much fever, the expectorated matter becomes more viscid during the period of febrile exacerbation; by inattention to which circumstance, this appearance of the sputa might cause the case to be mistaken for pneumonia, or inflammation of the parenchymatous structure. Sometimes, at the close of the exacerbation, the sputa become thick and opaque, as in the last stage of the disease, but after its termination, they again become limpid and glairy as before, thus presenting, during a single paroxysm, all the changes which they undergo during the course of the disease.

The froth which frequently appears on the surface of the sputa, is produced by the frequent and forcible agitation of the air against the mucus contained in the bronchiæ, and appears proportioned in quantity to the difficulty with which the ex-

pectoration takes place. The sputa are sometimes marked with blood, in the form of small streaks, arising from minute vessels ruptured during the cough. It is partly mixed with the mucus, but not thoroughly incorporated with it as in acute *pneumonia*. As the disease advances towards resolution, the mucus gradually loses its transparency; small opaque masses of a white, yellowish, or greenish colour appear swimming in it; these gradually increase in size, and at last constitute the whole of the sputa. This occurrence, called by the ancients, according to the doctrines of the humoral pathology, coction, generally indicates the resolution of the inflammation, and is attended by a marked remission of the symptoms. In a few cases, however, of intense bronchial inflammation, resolution has taken place, the sputa retaining the transparent glairy form of the first stage. When acute bronchitis passes into the chronic form, the sputa continues to resemble those of the latter stage of the former affection.

Bronchitis may be prolonged to an indefinite period, in a form nearly resembling the acute, marked by painful cough, sense of heat, uneasiness within the chest, and more or less fever. The expectorated mucus, in such cases, continues to resemble that of the first stage. When, during the febrile exacerbation, the expectoration is suppressed, an increase of inflammation generally follows. In general, the matter expectorated in chronic bronchitis is inodorous; in a few cases, however, it is extremely fœtid. In three of these, recorded by M. Andral, the disease co-existed with bronchial dilatation. From these observations it follows that fœtor of the sputa does not, as has been supposed, necessarily imply their origin from a cavity in the substance of the lungs, or within the sac of the pleura. In chronic bronchitis, the mucus sometimes assumes a solid consistence, like the fibrinous coagulum within the cavities of the heart, and being moulded in the cavities of the bronchiæ, may obstruct the entrance of the air, occasioning more or less dyspnœa, according to the size of the affected passage. M. Andral records two cases of this nature, where the patients appear to have been destroyed by asphyxia. In other cases, chiefly of acute attacks supervening on the chronic form, suffocation appears to be produced merely by a sudden accumulation of mucus or pus in the bronchial passages. A certain class of bronchial affections is principally marked by the immense *quantity* of fluid, expectorated; the symptoms of fever or inflammation are, perhaps, entirely wanting; and the essential part of the disease appears to consist in the copious secretion of fluid from the bronchial mem-



brane. The system becomes exhausted, not from hectic fever, but from the excessive and continued discharge, and even fatal results may ultimately ensue. Increased secretion may take place at undetermined periods, and give rise to that species of asthma, called humoral, or pituitous. In such cases M. Andral conceives the discharge to depend on some cause distinct from *inflammation*. In adverting to those asthmatic cases where dissection discovers no change in the organs, either of respiration or circulation, capable of accounting for the symptoms, and which have been referred to some unknown affection of the pulmonary nervous system, M. Andral differs from those pathologists who deny the existence of a purely nervous asthma, although he admits such cases to be infinitely more rare than formerly supposed, and to have diminished in proportion to the light diffused by the researches of modern pathology.

II. *Pleuro-pneumonia*.—The next division of the volume treats of inflammation of the parenchymatous structure, ordinarily called pneumonia, or peripneumony, but for which M. Andral proposes the term "*Pleuro-pneumonie*," because he conceives that in every case of inflammation of the substance of the lung, the pleura is more or less affected; reserving the term pleurisy, for those cases of frequent occurrence where inflammation is confined to the latter membrane alone. The different forms of this disease, both in respect to its organic changes and its symptoms, are illustrated by a detail of sixty-three instructive cases, treated in the wards of La Charité. Our limits permit us only to notice some of the most interesting results he has deduced from the observations of these and other cases. And first, as to the anatomical characters presented by inflamed lung; instead of the three varieties recognized by M. Laennec under the names of *simple engorgement*, *red hepatization*, and *pale hepatization*, M. Andral conceives that the alteration which the pulmonary texture undergoes, in consequence of inflammation, appears under *five* distinct forms, *three* of which are common to acute and chronic, and *two* peculiar to chronic inflammation. The three common are—1st, simple serous engorgement of the parenchymatous structure; 2d, softening with increased redness and density; 3d, softening of the lung, which is not red, but of a peculiar grey colour, and is either infiltrated with pus, or incloses a circumscribed abscess. In the two varieties peculiar to chronic inflammation, the lung is not softened but indurated and dry, and in this state also it presents sometimes a *red*, sometimes a *grey* colour, and is accordingly said to be

in a state of red or grey induration. In the first and most feeble degree of inflammation, constituting simple engorgement, the lung examined after death still crepitates, though less distinctly than in its healthy condition; in compressing a portion of lung thus affected, a sensation is communicated to the hand, that more liquid than air is contained in the air-cells. Sometimes the crepitation is scarcely perceptible, and we feel as if compressing a *fœtal* lung. The colour of the engorged portion of lung is changed, its reddish brown hue contrasts with the pale rose or grey colour of the adjoining healthy structure. When cut into, a reddish frothy serum escapes in large quantity. In this state, which is the result of the very slightest degree of inflammation, the natural tenacity of the lung is scarcely diminished; it may be compressed or pulled with considerable force without giving way. But when the inflammation has been more considerable, the affected parenchyma loses its consistence, becomes friable, and breaks when squeezed between the fingers. It then bears some resemblance to the structure of the spleen. This is an intermediate stage between simple pulmonary engorgement, and that red softened state which constitutes the second stage or degree of inflamed lung. To distinguish the serous engorgement produced by inflammation, from that which so frequently precedes death, in consequence of the accumulation of blood in the lungs, or from that which takes place even *after* death, we must attend less to the colour or degree of crepitation, than to the friability of the affected portion of lung. This latter quality, even in the slightest degree, invariably indicates the existence of inflammatory action. In the *second* degree of inflammation, (*ramollissement rouge*) the affected portion of lung is of a uniform red colour, and resembles in appearance a liver gorged with blood. It is void of crepitation, impermeable to the air, and no longer swims in water. When cut into, it discharges a reddish liquid, no longer frothy, and less abundant than in the preceding state. It is now extremely friable, and when slightly pressed between the fingers is readily reduced to a red pulp. When examined with a glass, it appears to consist of a crowd of minute reddish granulations pressed against each other, and when torn, these granulations are often visible to the naked eye. This is the hepatization of authors.

In a more advanced state the pulmonary structure is still dense, friable, and impermeable to the air, but has exchanged its red for a characteristic grey colour. When examined with the glass, the same granulations are seen as before, but instead of red they are grey or whitish. When the lung, in this con-



dition, is cut into, a greyish liquid either oozes spontaneously, or, by compression, may be made to appear in the form of drops, coming from numerous points on the cut surface. This liquid is pus, and is inodorous. M. Andral, in common with the pathologists of the modern French school, considers the formation of an abscess in the parenchymatous structure of the lungs as an extremely rare occurrence. The reputed pulmonary abscesses which abound in the works of former writers were either tubercular excavations, dilated bronchiæ, or collections of pus circumscribed by adhesion between the pulmonary lobes, or between the pleura of the lungs and that of the ribs. M. Laennec has met with only six cases of genuine abscess, which were mostly small, the largest admitting the united ends of three fingers: M. Andral has seen only one. When the lung is in the above state of softening and purulent infiltration, its texture is so friable that the slightest pressure with the finger is sufficient to rupture it, so as to form a small cavity, which is immediately filled with pus, and is apt to be mistaken for an abscess of recent formation. Chronic inflammation of the pulmonary parenchyma is a very rare disease, and therefore the *induration* to which it exclusively gives rise, either in its red or pale variety, is seldom met with. But though chronic pneumonia in a pure or idiopathic form is rare, it frequently is observed as a secondary affection, concomitant or consequent on another disease. This is seen in melanosis, and in the common tubercle. In this latter case, particularly the pulmonary, tissue immediately inclosing the tubercle is observed to undergo the successive states of inflammation already described, and finally to become dense, hard, and grey. That inflammation should produce, first softening, and afterwards induration of the pulmonary parenchyma, is in perfect analogy with its effects in numerous other organs and parts of the body. Thus, the cellular tissue, in a state of acute inflammation, becomes soft and friable; but if the inflammation instead of terminating in resolution, passes into a chronic state, it not only loses its morbid softness, but becomes harder than natural. We sometimes find the three stages of acute inflammation co-existing in the same lung, one part presenting simple engorgement, another red softening, and a third grey softening. This may arise from the inflammation not having proceeded with equal rapidity in these different parts, or from its having attacked them in succession. The inflammation may advance to the last stage in a very short period. Thus M. Andral has found a lung in the state of purulent infiltration on the fifth day of the disease. We shall not stop to examine

the accuracy of M. Andral's doctrine respecting the *tissue* primarily affected in inflammation of the pulmonary parenchyma. The inflammation he conceives to be seated, not in the inter-vesicular cellular membrane, but in the internal surface of the air-cells themselves, and he explains hepatization, by supposing the formation of granulations on these surfaces. We think there are strong objections to the accuracy of these views, and it is but fair to state that M. Andral admits them to be mere hypotheses. He also conceives the termination of pneumonia in gangrene, to be still more rare than in abscesses, and has recorded two instances of this occurrence.

Pneumonia may attack both lungs simultaneously, or it may be confined to one. The following statements are interesting, as showing the proportion of cases to which the right, or left lung alone, or both lungs are affected. Of 151 cases, recorded at La Charite, in 90, inflammation affected the right lung only; in 38, the left lung only; in 17, both lungs simultaneously; in the remaining 6, the seat was undetermined. Of 59 cases, recorded in the works of modern writers of acknowledged accuracy, in 31, the right; in 20, the left; and in 8, both lungs were affected: the sum of which gives, of 210 cases—121 to the right lung; 58 to the left; 25 double; and 6 undetermined. With regard to the inquiry what *part* of the lung is most frequently interested in pneumonia, the result of M. Andral's observations is hostile to a common opinion, that the superior lobe is almost never affected with inflammation; for of 88 cases—in 47, inflammation affected the inferior; in 30, the *superior* lobe; and in 11, the whole lung.

Frequently the inflammation is disseminated throughout the lung, affecting a number of insulated portions, varying from the size of a pea or nut, to that of an orange; and in the same lung these different portions may present all the different stages of inflammation. Pneumonia appears to be uniformly complicated with more or less inflammation of the lining bronchial membrane; at least after death it always appears injected with blood. The redness occupies, in an equal degree, the larger and smaller ramifications. It is frequently, though not always, limited to the bronchiæ of the inflamed lobe.

The characteristic symptoms of pneumonia, M. Andral enumerates as follows: pain more or less marked in the lateral part of the chest, dyspnœa, cough, with bloody and viscid sputa, dullness of sound emitted on percussion of the thorax, modification of the respiratory murmur, and fever. We shall select a few of the most interesting observations he has made on each of these symptoms, in their order:—



1st. Pain. M. Andral conceives that the acute pain checking inspiration, which is a frequent, though not constant symptom of pneumonia, is wholly referable to the concomitant inflammation of the *pleura*. In support of this opinion, which (we believe) is at direct variance with that of M. Laennec, he states, that in every case of pneumonia attended with marked pain, where the disease proved fatal, he found distinct signs of inflammation of the *pleura*; and that on the other hand, the absence of pain always coincided with a sound state of the *pleura*. He says that in pure pneumonia, uncomplicated with *pleuritis*, the patient experiences a sense of uneasiness and oppression in the chest, of deep-seated weight and unpleasant heat; but never *real pain*.

2d. Dyspnœa. The degree of dyspnœa in pneumonia, although generally in proportion to the *extent* of lung inflamed, is by no means so uniformly so as to afford us a certain criterion, or even decidedly to modify our prognosis. Many individuals, from causes not clearly understood, suffer a greater degree of dyspnœa from inflammation of a small portion of lung, than others whose lungs are more extensively inflamed. Inflammation of the superior lobes appears, *cæteris paribus*, to cause greater dyspnœa than that of the inferior.

3d. With regard to the modifications of the *sound* of respiration in pneumonia, or in other words the means furnished by auscultation of distinguishing the progressive changes which occur in the *parenchyma*, the observations of M. Andral amply confirm the well known doctrines of M. Laennec. He assures us, that in almost every case of pneumonia in its first stages, when we apply the stethoscope over the inflamed portion of lung, the natural murmur of the respiration is heard, mixed with that peculiar crackling noise, called by Laennec, "*râle crépitant*," from its resemblance to the sound produced by decrepitating salt on burning coals. This sound has sometimes a still stronger resemblance to that which we produce by rubbing a piece of parchment between the fingers. At its commencement, this crackling sound merely veils the natural murmur of respiration, but does not mask it altogether. As, however, the inflammation proceeds, it becomes more and more predominant, and finally completely usurps the place of the former. This peculiar *rattle* indicates, that the first degree of inflammation (that attended with serous engorgement) has taken place in the portion of lung in which it is heard, and that the lung is still permeable to the air. The more intense this crackling rattle, the more completely it supersedes the healthy respiratory murmur, we may infer that the lung is ap-

proaching the nearer to the second stage, that of hepatization. When death takes place during the continuance of this rattling sound, the lung is found merely gorged with fluid, but its structure is also generally more or less friable, according to the *duration* of the disease. In the second stage of the disease this rattle has much diminished, or entirely disappeared; and one of two things may now be observed; either in proportion as this unnatural sound has disappeared, it has been replaced by the healthy sound of respiration, or it has not; the former occurrence indicates a resolution of the disease, and a returning state of health; the latter denotes that hepatization or consolidation has taken place. In this stage there is generally a complete absence of all respiratory murmur, in consequence of the lung being no longer penetrated by the air.

M. Laennec regards this complete absence of respiratory murmur as an invariable consequence of hepatization; but our author has observed a certain degree of sound sometimes to remain, in consequence of the air still being admitted into the larger bronchiæ; a sound which, however, he says, cannot confuse the diagnosis, as it is equally distinct from the rattle heard in the first stage, on the one hand, and the murmur of healthy respiration on the other. He says it is a kind of puffing noise, like that which would be produced by a person near the ear of the physician, blowing through a tube of brass. This is also accompanied by a peculiar modification of the voice as heard by the stethoscope, which has some analogy to pectoriloquism and œgophonism, and is precisely similar to the modification which the voice undergoes in bronchial dilatation.

With regard to the causes producing morbid sounds of the respiration, considered in general, our author states that they depend on the percussion of the column of air against fluids contained in the air passages, and that their different modifications depend on the state of the fluids, and the size and form of the passages in which they are contained. Thus, in the trachea we have the air striking against the mucus which accumulates there previous to death, producing the well known sound vulgarly called the "*dead rattle*." Thus, also, the air passing into tubercular excavations, and coming in contact with the pus they contain, produces that distinct gurgling noise familiar to all those who have used the stethoscope in phthisis. Again, when the fluid is effused in tubes of different dimensions, viz. the bronchiæ, the sound is considerably altered, forming the "*râle muqueux*" of Laennec, indicative



of certain forms of bronchitis. Again, when the fluid is effused into the air vesicles, it modifies the sound still farther, forming the "rale crepitant" of acute pneumonia, a certain degree of which invariably accompanies the more intense forms of bronchitis. These sounds pass and repass into each other by insensible degrees, according to the seat of the disease; the "rale tracheal" into the "rale muqueuse," and that again into the "rale crepitant."

When one lung is affected with hepatization, the healthy murmur of respiration, or to use the language of our author, the noise of the pulmonary expansion in the opposite lung is much increased in intensity, so as even to induce a suspicion that it also is in a state of disease. It would almost appear that, as if to assist or supply the place of the disabled lung, it acted with increased vigour, and inhaled a larger quantity of air than in the natural state. Sometimes the quantity of mucus secreted in the bronchiæ is so great as to give rise to a mucous or bronchial rattle, so loud as completely to drown all other sounds. This is one case where auscultation does not enable us to form any judgment on the state of the pulmonary parenchyma.\* There are also certain modifications of inflammation of the parenchyma, where auscultation fails in affording us any sign; these are where inflammation occupies a circumscribed portion of the lung, remote from its surface, particularly at the base, at the root, or in the centre. It must also be readily seen when inflammation occupies a number of insulated portions of lung, that scarcely any satisfactory information can be derived from this mode of exploration.

4th. Percussion of the walls of the thorax affords another set of symptoms, which enable us to judge of the existence and degree of pneumonia. Before the introduction of mediate auscultation, the signs obtained by percussion were of the highest importance; by it alone the existence of pneumonia could frequently be detected when occurring in its latent form; that is, when the ordinary symptoms were wholly wanting, or so ambiguous as not to point out the real nature of the disease. Now, however, percussion, although too valuable to be neglected, can only be regarded as a subordinate aid to mediate auscultation. In numerous instances of pneumonic inflamma-

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\* In cases also of enlarged heart, particularly where hypertrophy is combined with dilatation of the left ventricle, we have found it impossible to judge of the state of any part of the lungs by means of the stethoscope; the noise occasioned by the pulsation of the ventricle being so great as completely to drown every other sound within the chest. REVIEWER. 2

tion in the first degree, the thorax on *percussion* is no less sonorous than in health. Again, in pneumonia, the thorax seldom begins to lose its natural hollow sound till the third or fourth day of the disease; whereas *auscultation* denotes the existence and nature of the morbid action from its very commencement. The superior accuracy of auscultation is equally manifest towards the close of the disease, for after the opaque sound has disappeared, and percussion no longer indicates the continuance of farther morbid action, auscultation frequently announces that the resolution of the inflammation is not yet complete. *Percussion* cannot be practised when the walls of the thorax are painful, cedematous or tender from the application of a blister. The diagnosis drawn from percussion is rendered more or less fallacious by the fact, that the chest is by no means equally sonorous in different individuals in health; thus, in many persons free from thoracic disease, it emits, when struck, a very obscure sound. In *auscultation*, on the contrary, we are not exposed to these sources of error.

There are cases already noticed, when both auscultation and percussion fail to afford us the requisite knowledge. This happens when the portion of lung inflamed is remote from the surface, particularly when situated in the centre, at the root, or base of the lung. M. Andral closes his observations on percussion by remarking, that in practising it, we should constantly bear in mind, that on the right side of the chest, the position of the liver, and on the left that of the spleen, occasion a want of resonance, which may be mistaken for the effect of disease *within* the chest. He might have added, that when either of these viscera is much enlarged, particularly the liver, it may encroach on the right cavity of the chest, and thrust the lung upward, out of its natural situation. The consequence of this displacement is the absence, not only of the hollow sound of the chest, but also of the respiratory murmur, sometimes to a very considerable extent, so as to render, not merely the diagnostic obtained from percussion, but also that obtained from auscultation, fallacious.

5th. Another class of symptoms, characterizing pneumonia, is founded on the cough and the characters of the sputa. The cough is short, seldom occurs in fits, but does not appear to bear any fixed relation, in point of violence or frequency, to the intensity of the disease. In the commencement, when the cough, dyspnœa, pain, and fever, are already sufficiently marked, the patient expectorates nothing, or at most, a little mucus collected in the throat, or bronchiæ, and mixed with saliva. In general, the expectoration commences from the



second to the third day. The sputa then forms a jelly-like, tremulous mass, homogeneous, transparent, and uniformly reddish. They are not merely streaked with blood, as in catarrh, nor do they consist of pure blood, as in hæmoptysis, but of mucus, intimately and uniformly combined with it. According to the quantity of blood they contain, they are yellow, of a rusty iron colour, or decidedly red. They are, at the same time, tenacious and viscid, adhering to each other, so as to form a homogeneous mass; but in this stage of the disease, they are seldom so viscid as to adhere to the sides of the glass, but can readily be poured from one vessel into another.— Sometimes they retain these characters during the whole course of the disease, in which case, the inflammation seldom exceeds the first degree. Sometimes again, they become more and more viscid, till they adhere firmly to the sides of the glass, and cannot be detached by inverting it. This proves, that the inflammation is increasing in violence, and ought to excite apprehensions of its advance to the second stage; a suspicion which is generally confirmed by a simultaneous diminution of the natural resonance, and the disappearance of the respiratory murmur on the affected side of the chest. It may be laid down as a general rule, that the degree of the viscosity of the sputa increases in proportion to the intensity of the inflammation. When the inflammation diminishes, and tends to resolution, the quantity of blood contained in the sputa, as well as their viscosity, likewise gradually diminishes. At first, a little agitation is required to detach them from the sides of the glass, by and bye they can be poured out, merely by inclining it to one side; gradually they resume the character they had in the commencement of the disease, and finally, are converted into the sputa of simple catarrh. It is a common observation, confirmed by the authority of Cullen, that the resolution of pneumonia is particularly favoured by the free and copious expectoration of a thick, white, yellowish, or greenish matter, but it must not be supposed, that this alteration of the sputa is a necessary preliminary to complete resolution, in as much as our author has often seen the disease terminate in the most favourable manner, although the sputa (after losing their viscosity and bloody tinge) remained watery, transparent, and colourless. For several additional interesting observations on the diagnostic varieties and treatment of pneumonia, which our limits oblige us to curtail, we must refer to M. Andral's volume, and close our analysis with a brief survey of the third part of his work, which treats of pleurisy.

III. M. Andral treats pleurisy as pneumonia, in two dis-

tinct ways. The first part of the chapter consists of a detail of cases, thirty-six in number, treated in La Charite, illustrating the disease in numerous points of view ; each case being followed by appropriate observations. These cases are arranged so as to illustrate the principal varieties of pleurisy. The first group consists of cases unaccompanied with effusion of fluid, or dry pleurisies ; the second, of those accompanied with effusion ; the third, of partial pleurisies, or those limited to the diaphragm, to the interlobular surfaces, to the mediastinum, or to a defined portion of the costal or pulmonary pleura ; the fourth consists of double pleurisies, or those affecting both sides of the chest at once, and the fifth group of pleurisies complicated with other diseases, viz. tubercles, pneumothorax, pericarditis, chronic tubercular peritonitis, acute peritonitis, &c. The second part of the chapter forms a complete general history of pleurisy. It treats first of its anatomical characters. When the pleura has been the seat of slight recent inflammation, the affected portion appears red, but on close inspection, the redness is found to depend, not on the increased vascularity of the membrane itself, which is perfectly transparent, but on the injection of the subjacent cellular tissue. This condition may be observed when a foreign body is introduced, or a slightly stimulating fluid is injected into the chest of an animal, and it is examined shortly afterwards ; or in the human body, when death takes place from any disease that is accompanied with a slight degree of pleurisy. In a more intense degree of inflammation, the membrane itself becomes the seat of increased vascularity. This presents a great variety of forms ; sometimes the vessels are few in number, with large intervening spaces ; sometimes they are numerous and closely crowded, anastomosing in a thousand ways, so as to form either simple red points, long continued streaks, broad patches, tortuous bands ; or finally, and what is very rare, there is a uniform red tinge. Real thickening of the pleura from inflammation, is a very rare occurrence, those authors who have described it as common, having manifestly confounded the pleura with the false membranes adhering to it. Our author has never observed in the pleura, that state of softening and ulceration, common in the inflamed peritoneum, but he has sometimes seen the pulmonary pleura detached with much greater facility than natural, from the surface of the lungs, as if the fine cellular tissue, which unites it to the parenchymatous structure, had participated in the inflammation, and had, in consequence, become friable. A much greater variety exists in the *secretions* of the inflamed pleura, than



in the appearance of the membrane itself; and what is remarkable, in numerous cases where secretions from inflammation are sufficiently conspicuous, the membrane itself retains the appearance of health. In quantity, the secreted matter varies from an ounce to several pints. In respect of quality, it is sometimes a colourless, or citron-coloured, clear serum, and in such cases, slight redness of the pleura, or a few membranous exudations adhering to it, are the only unequivocal signs of inflammatory action. Most commonly, however, flakes of lymph are either found floating in the liquid, (without, however, disturbing its transparency) or precipitated at the bottom, and rendering it slightly turbid when stirred up. In other cases, the liquid effused is decidedly turbid, and of a yellow, greenish, brown, or greyish colour; sometimes thick like mire. Lastly, and after passing through several intermediate gradations, it appears under the form of common pus. In more uncommon cases, we find a fluid equally different from pus and serum, which is usually inclosed in cavities formed by adhesion, and resembles either half liquified animal jelly, or honey; or, still more closely, the matter contained in the melicerous tumour. *Blood* may also be effused by the inflamed pleura, either along with serum, in which case, it communicates to the latter fluid a red tinge, or in a pure state, and capable of coagulating spontaneously.

The observations of our author confirm the opinion now pretty generally received, that pure dropsy of the chest, or, in other words, effusion of serum, unaccompanied by traces of inflammation of the pleura, and not produced by obstruction of the circulation from organic disease, is a very rare affection indeed. M. Andral next treats of false membranes, discusses the theory of their formation, describes their varieties, and the diseases to which they are subject; the most remarkable of which is the formation of tubercles. These form, and increase in size and number with almost incredible rapidity. He then describes the state of the lung compressed by accumulated serum, gives a brief sketch of the causes of pleurisy, both predisposing and exciting, and next proceeds to examine, in detail, the different symptoms which announce its existence. On the symptoms of pleurisy, considered in general, we shall make one remark, which is strongly illustrated by the observations of our author. Although, in a majority of cases, pleurisy is extremely well marked, and distinctively characterized by its symptoms, yet in forming a diagnosis, we should not lean too much weight on any of these symptoms taken *individually*, for none of them, even the most characteristic, is constant

or invariable. Thus M. Andral records cases where the pain of the side, the dyspnœa, the cough, the febrile reaction were, each in their turn, wanting. Although, however, diagnostic conclusions founded on any single symptom are of little value, yet the collective force of several or all, may furnish probability amounting nearly to certainty. But pleurisy may exist although the whole of the ordinary symptoms are simultaneously wanting. This volume records several cases of pleurisy, when the existence of the disease was revealed neither by pain, dyspnœa, cough, nor fever. In these cases, the inflammation is said to be latent, and we believe, such affections, whether acute or chronic, and both in the pleura and other membranes, to be more frequent than commonly supposed.

PAIN, which is one of the most characteristic symptoms of pleurisy, varies much in situation, intensity, and duration. Although the inflammation which it indicates, occupies a very extensive surface, the pain is very generally felt only in a single *point*, which point is most frequently on the same transverse line with the nipple, or a little lower. Sometimes, though more rarely, the pain is felt in other points, as in the axilla, under either clavicle, beneath the sternum or scapula. Again, the pain, instead of being confined to a single point, may shoot in a continued line along the whole extent of the thorax; when laterally, from the axilla to the inferior ribs; when anteriorly, from the clavicle to the base of the thorax. In other cases, chiefly those where the pleura of the diaphragm is affected, the pain is felt principally in the hypochondrium, shooting along the margin of the cartilages of the false ribs, and extending to the epigastrium, or downwards as far as the ileum, when it is liable to be mistaken for a symptom of inflammation within the abdomen. The pain, wherever seated, is augmented by percussion, pressure on the intercostal spaces, lying on the affected side, inspiration, and motion of the trunk. At the commencement of the pleuritic attack, the pain is sometimes undefined and wandering, when it is apt to be attributed to a rheumatic affection of the muscles of the chest. The frequent attacks of pain within the chest to which phthisical patients are liable, appear to arise from slight and partial inflammations of the pleura. In these attacks, the pain is most frequently felt beneath the clavicles, in the hollow of the axilla, or between the shoulders at the upper part of the dorsal region, which are precisely the situations where cellular adhesions are most frequently found after death. The *dyspnœa*, which marks the first stage of pleurisy before the fluid is effused, is solely the result of the acute pain which prevents the free expansion of the chest. After effusion has occurred,



the dyspnœa depends also on the mechanical compression of the lung, and hence ought to be in direct proportion to the quantity of fluid collected. This general rule, however, is subject to numerous exceptions. Although at variance with our *a priori* ideas, it has frequently happened, that one of the pleural cavities has contained fluid sufficient to occasion a sensible dilatation of that side of the chest, and yet the patients, when in bed, have respired with perfect freedom, nay, have been able to move about, to walk, or even run, without experiencing any marked affection of the breathing. Our author records several cases illustrative of this curious fact. One of these, in which the effusion was the result of a pleurisy of a few days' duration, proves that this absence of dyspnœa is not confined to those cases where the fluid has collected slowly.

When inflammation is confined to the costal or pulmonary pleura, the respiration is carried on principally by the contraction of the diaphragm, the intercostal muscles remaining comparatively quiescent; and when, on the contrary, the portion of pleura investing the diaphragm, is the principal seat of the inflammation, that muscle remains quiescent, and the dilatation of the thorax is effected principally by the elevation of the ribs.

In so far as respects dyspnœa, our author ranges patients, labouring under pleurisy with effusion, into three classes. In the first, the dyspnœa is constant and extreme, from the commencement to the termination of the disease, which is uniformly fatal. In the second, the respiration is at first very much oppressed, but the dyspnœa soon diminishes, and finally disappears long before the effused fluid is absorbed. In the third, the respiration is scarcely affected during the whole course of the disease.

The *cough* in pleurisy presents no very marked or peculiar characters; it is generally short, small, and stifled, and does not occur in paroxysms. In many severe cases, accompanied with effusion, it is altogether absent, and cannot therefore be regarded as a pathognomic symptom of pleurisy. It is either dry, or accompanied with the expectoration of merely catarrhal sputa, generally in small quantity. The only exception is, when a collection of purulent fluid having taken place within the cavity of the pleura, has formed a communication by ulceration, with one of the bronchiæ, and is evacuated by coughing. This occurrence can take place only in chronic pleurisy, and even there is very uncommon.

*Decubitus* on the affected side, has been regarded as one of

the pathognomonic symptoms of pleurisy, accompanied with effusion, but the observations of our author sufficiently expose the fallacy of this idea. In a large proportion of pleurisies, whether accompanied with effusion or not, he has found decubitus to take place on the back. Several of his patients, indeed, manifested a very sensible inclination to lie a little towards the affected side, (decubitus diagonal) but a very small number only has reclined wholly on that side. This, he says, occurs only when there is no pain, or when the effusion is very considerable. In other cases, decubitus takes place on either side, or on the back, indifferently. When the diaphragmatic portion of the pleura is inflamed, the horizontal posture cannot generally be supported, the patient assumes the sitting posture, he even bends the trunk forwards, as if relieved by this position.

From the time that even a small collection of fluid has begun to form in the chest, its presence is denoted by a diminution of the natural sonorous property of the side where it exists. In proportion as the fluid accumulates, the sound emitted by the chest, when struck, becomes more and more dull. At first, this "mat" sound can be perceived only in the lower part of the affected side, gradually it extends upwards, and at last pervades the whole. When the pleurisy is double, and the effusion takes place on both sides at once, the want of resonance, being equal on both sides, may, if not very marked, escape notice, or may be taken for the natural state of the chest, in virtue of the fact that many healthy chests emit a much duller sound on percussion than others apparently in the same condition. When the collection of fluid is circumscribed, the "mat" sound is heard only in a small portion of the thoracic parietes, and in certain forms of circumscribed collections of fluid, *percussion reveals no diminution whatever of resonance*; this happens when the fluid collects in circumscribed cavities between the pulmonary lobes, on the surface of the diaphragm, or that of the mediastinum, or in any situation remote from the surface of the thorax.

*Auscultation* affords more certain and precise information than percussion, respecting the condition of the chest in pleurisy. In the commencement of the disease, before effusion has taken place, and when the sound which the chest emits on percussion is natural, the murmur of respiration, as heard by the stethoscope, is sensibly fainter on the inflamed than on the healthy side, especially if there be considerable catch on inspiration; and at the same time, the ribs of the inflamed side are observed to rise and fall less than natural. M. Andral at-



tributes this diminution of the noise of respiration to the violence of the pain, which instinctively induces the patient to suppress the motion of the ribs of the inflamed side. Hence, a smaller quantity of air penetrates into this lung at each inspiration, and of course, the sound occasioned by its entrance is rendered fainter. This, he says, is so true, that if the pain be not violent, both sides of the thorax dilate equally, and the murmur of respiration is equally loud in both lungs. As soon as the effusion has commenced, there is a new cause for the diminished expansion of the lung during inspiration, and the murmur is now *constantly* fainter than on the healthy side. It becomes more and more feeble as the fluid accumulates, whilst in the opposite lung, the noise of respiration becomes louder than natural. It must, however, be observed, that although much diminished in intensity, the noise of respiration does not wholly disappear on the affected side, even though the collection of fluid be very considerable. Our author has observed it distinctly, where the pleural cavity contained about a pint of liquid. At last, however, when the fluid has accumulated in still greater quantity, the murmur of respiration disappears entirely, either throughout the whole of the affected side of the chest, or at its inferior or posterior part only.—The conclusions we draw from the continuance or cessation of the murmur of respiration, in the different parts of the affected side of the chest, are essentially modified by the different situations which the lung, compressed by liquid, may occupy. Thus, in the majority of cases, the whole lung is pressed towards the vertebral column, and the sound of respiration disappears progressively from below upwards, and in an equal degree behind and before. In other cases, the lung, instead of being carried towards the vertebral column, is pushed directly from before backwards, and lies applied flatly against the *ribs*. In this case the noise of respiration becomes extinct in the anterior part of the chest, while it continues audible in the posterior. Again, the inferior lobe may be retained in its place by old adhesions. The fluid can then accumulate only in the space occupied by the superior lobe, and the noise of respiration consequently, disappears from the upper part of the chest only. Such anomalous occurrences may cause the nature of the disease to be mistaken. Sometimes, instead of a complete cessation of all respiratory murmur, the natural sound of respiration is replaced by that peculiar modification of sound which we have already described in speaking of hepatization, called by M. Andral, “respiration bronchique,” because he conceives it to be produced by the air penetrating

into the larger bronchiæ only. When there is an accumulation of mucus in the bronchiæ, the interposition of a liquid between the lung and the ribs does not readily destroy the different rattling sounds which result from the collision of the air and mucus; a fact not without its use, as the existence of such rattling sounds might lead to the belief that the lung was still in contact with the ribs, and consequently to a mistake respecting the nature of the disease.

The observations of M. Andral on the modifications which the voice, as heard through the stethoscope, undergoes when fluid is collected within the cavity of the pleura, confirm, generally speaking, the doctrines of M. Laennec, though differing in some particulars; that peculiar resonance of the voice, as heard through the stethoscope, called by M. Laennec "*egophonie*;" from its resemblance to the shrill tremulous cry of the goat, and considered by him as a characteristic sign of fluid in the cavity of the pleura, M. Andral has observed in a considerable number of cases. Egophony, however, he considers as a generic term, including many varieties of vocal resonance, some of which are considerably unlike the original egophony of M. Laennec; whilst in other cases of fluid collected within the pleural cavity, he has not been able to distinguish any phenomenon bearing the most distant resemblance to egophony; the voice differing from that heard on the healthy side, merely by an increase in the *intensity* of its resonance. It will readily be conceived, that the above modification of voice, liable as it is to so much uncertainty and to many varieties, may readily lead into error, and that what is merely a natural variety of the voice, may be mistaken for the effect of disease. This source of error may, to a certain extent, be avoided, by previously ascertaining the condition of the voice on the healthy side, and comparing it with the modifications observed when the stethoscope is applied to that supposed to contain the fluid. When the fluid collected in one of the pleural cavities is small in quantity, the voice undergoes no particular change; when more considerable, the different varieties of egophony are distinguished; but when the quantity of fluid accumulated is so great, as by its compression to prevent the entrance of the air, even into the larger bronchiæ, there can, of course, be no vocal resonance whatever.

M. Andral considers the changes which the voice undergoes, when fluid is collected in the cavity of the pleura, to depend on two causes: first, the transmission of the sound, through a liquid medium. This seems to be the principal modifying cause when only a small quantity of liquid is col-



lected, and the lung but slightly compressed ; but when the liquid accumulates to a much greater extent, and compresses the lung so much as to prevent the air from penetrating farther than the larger bronchiæ, its vibration in these appears to be the principal cause which produces the modification of voice called egophony. As the mechanical condition of the bronchiæ of a lung compressed by fluid, is very similar to that of the bronchiæ of a lung, in a state of hepatization, it might be naturally anticipated that a similar modification of voice would take place in both cases. Accordingly, in hepatization, M. Andral has observed a peculiar modification of the voice which does frequently approach so closely to that observed when fluid is collected within the chest, that (contrary to the opinion of M. Laennec) he does not consider egophony as a sign by which we can distinguish effusion from hepatization. To distinguish these diseases, we must have recourse to other diagnostic signs. If, in conjunction with *slight* obtuseness of sound on percussion and egophony, we hear the healthy murmur of respiration, unmixed with the peculiar crackling rattle of pneumonia, but merely somewhat feebler than on the opposite side, we may conclude with certainty that effusion, not hepatization, is going forward ; and *vice versa*, if along with dulness of sound on percussion and egophony, there be not merely a diminution of the respiratory murmur, but some degree of the crackling rattle, then we may infer that the case is not pleurisy, but pneumonia. If, on the contrary, in conjunction with *great* obtuseness of sound on percussion, and the egophonic modification of voice, there be either a complete absence of the respiratory murmur, or that substitute for it, already described under the appellation, *respiration bronchique*, then *auscultation*, does *not* enable us to decide whether the disease be hepatized lung, or pleuritic effusion ; and we are obliged to have recourse, for the means of diagnosis, to the history of the disease and to the other symptoms, one of the most characteristic of which is the red colour of the sputa, peculiar to pneumonia. If there should be dilatation of the affected side of the chest, which is sometimes the case, there can be no difficulty in distinguishing the two diseases.

**MONTHLY SUMMARY****OF PRACTICAL MEDICINE.**

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**I. ANATOMY AND PHYSIOLOGY.**

DR. EDWARDS *on the Influence of Temperature upon the Animal System.*

We have seen, that when the faculty of producing heat is in any way diminished, either the functions become torpid, or this is prevented by an increase in the respiratory movements and in the circulation. Although the former effect is confined chiefly to the hybernating animals, and the young of some others which do not hibernate, yet many reasons lead to the conclusion that even the adults of all classes of animals are occasionally liable to undergo the same change. Some hybernating animals are so apt to become torpid, as to fall into that state even from the slight decrease of their power of producing heat which takes place during sleep; and it is not unreasonable to infer, that the same may be the fact with individuals of other classes, and even with man itself. The effect of cold in producing lethargic sleep in man is well known; the degree of cold required is very different with different individuals; and perhaps there may be some individuals who will become lethargic even at moderate temperatures, if other causes concur to diminish their power of producing heat.— Thus we are led to admit the possibility of those cases of lethargy or prolonged sleep which have been so often recorded, and so frequently questioned.

On the other hand, the phenomena that occur in those animals in which the diminished power of producing heat is attended with acceleration of the pulse and breathing, appear to throw some light on the progress of the febrile paroxysm. The first stage of a fit of ague is exactly similar to the state into which young puppies and kittens are thrown when removed from their mother even into temperate air. And that this arises in the former as in the latter case from a want of the power of supporting temperature, is rendered probable by the sensation of intense deep-seated cold which accompanies the cold stage of the fit, and by the great refrigeration of the body which takes place if cold is applied at that time. But ere long the continued action of the cold quickens the pulse and



the breathing; and through these means the production of heat is gradually increased; nay, it may exceed the natural standard: And this effect is not temporary; because we have seen, that, whenever any extraordinary means are brought into play to increase the productive power, their influence continues a considerable time after their application has ceased. If, instead of leaving the restoration of the productive power to nature, artificial means be early used to increase it, then the subsequent hot stage will be curtailed, or even prevented altogether; and such Dr. Edwards considers to be the mode of action of the vapour-bath in cutting short ague.

It has been shown, that, at temperatures below that of warm blooded animals, the cooling of the body is not affected differently by the driest and moistest condition of the atmosphere. This fact appears incompatible with the different sensations produced by dry and damp air at the same temperature. Dr. Edwards considers the reason to be, that dry cold air acts merely on the surface of the skin, while moist air has the peculiar power of exhausting the faculty of producing heat; and he appeals, in support of his opinion, to the different qualities of the sensations produced by each. In dry air, the sensation of cold is superficial; and when the influencing power is intense, it causes rigidity and torpor; but in moist air, the sensation is deep-seated, and its consequences are nearly the same as those mentioned in the last paragraph.—Such being the state of the case, we can be at no loss to understand why the latter condition of the atmosphere is the most dangerous to the health.

The capability which the body possesses of supporting changes of climate, has been generally ascribed to the difference of evaporation under different temperatures. This circumstance has no doubt some effect; but Dr. Edwards considers it much more trifling than one would be apt to suppose; for the temperature even of the frog, whose evaporation is much greater than that of any warm-blooded animal, follows very closely the changes of the season. A much more effective agent is a change in the power of producing heat, which becomes greater on a change being made to a colder climate, and less if the change be to one that is warmer. But notwithstanding these regulating powers, the animal temperature, contrary to the common belief, does vary somewhat from season to season, and between one climate and another. The greatest variation observed by Dr. Edwards, betwixt summer and winter, was in the case of the sparrow; the mean of several experiments gave  $105^{\circ}.33$  for February,  $107^{\circ}.5$  for April,

and  $110^{\circ}.75$  for July. Dr. John Davy informed the author that he found the temperature of the human body one or two degrees higher at Ceylon than in Europe.

Under the influence of disease, the power of producing heat is often greatly augmented. The author has given, on the authority of Dr. Prevost of Geneva, the highest temperature which has yet been observed in man ; he found it in a boy 12 years old, labouring under tetanus,  $110^{\circ} 3-4$ .\*

The good effect of the cold bath and cold affusion in febrile diseases is attributed by the author chiefly to their power of diminishing the faculty of producing heat ; that of cold sponging and ventilation depends rather on the increased evaporation counterbalancing the tendency of the productive faculty.

He considers that the peculiar symptoms, which occur at great heights above the level of the sea, are owing not altogether to the diminished supply of air, arising from its tenuity, but likewise in a great measure to the increased evaporation from the lungs, caused by its excessive dryness. Hence arises the intolerable sensation of thirst ; and hence, too, it happens that the oppresssion of the breathing is much relieved when clouds pass over the body. For the same reason, some delicate individuals suffer considerably from oppressed breathing, in apartments heated by stoves in the cold northern climates ; and their sufferings are relieved if the air is rendered moist by vessels of water distributed throughout the apartments. Animals can endure a very great rarefaction of the air, if the quantity is limited so as to be easily loaded with moisture, and if they are not subjected at the same time to violent exercise. Guinea-pigs appear to be on the point of suffocation only at a pressure of 9.1 centimetres (0.60 inch,) and the yellow-hammer at 13.5. (0.81.)

In many febrile diseases, a great source of suffering, and probably of danger to the patient, is the increased transpira-

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\* During the last six years, we have had abundant opportunities of ascertaining accurately the increase of heat which may take place in the most acute febrile diseases of this town. The observations which have been made by ourselves, and by others on whose accuracy we could rely, in cases of continued fever, scarlatina, measles, small-pox, &c. have been several thousands in number ; and we rarely found it above  $105^{\circ}$ , in perhaps half a dozen instances  $107^{\circ}$ , and once only  $107^{\circ} 1-2$ . These high temperatures were determined by a thermometer, which was carefully corrected by the usual means. The necessity of this precaution is even more urgent than may be imagined. We have examined within these few years, eleven thermometers graduated by some of the first makers in London, Paris and Edinburgh, and have found them all to vary between 0.5 and 4.0 of the truth.



tion from the lungs and skin. It is probably an object of much greater importance than is generally thought, to counterbalance its effects by external means. Is not this the cause of the great relief felt by such patients in the inhalation of watery vapour?

The statements given in the body of the work, regarding low power of producing heat possessed by young children, and the probable differences in the same respect which exist among adults, might lead to many interesting rules respecting regimen as to clothing. They will tend to do away with the notions which some persons have entertained of the propriety of inuring very young children to cold, and to establish the necessity of paying the greatest attention to preserve their temperature by sufficient clothing. They likewise show, that with some individuals a change of dress is indispensable as the seasons change, while others may safely clothe themselves in the same manner throughout the whole year.

All young animals can endure respiration in confined or impure air much better and longer than adults. Accordingly, infants may suffer, without much danger to life, diseased states of the lungs, which would be fatal to adults. It is probable, too, that as adults differ much from one another in their power of producing heat, so they likewise differ considerably in their power of enduring confined respiration; and this fact would in part explain, why, in apparently similar circumstances, morbid alterations of the lungs of the same extent are fatal to some, and not essentially injurious to others.

It may be worth while to inquire, what practical hints may be derived from these views respecting respiration, for the treatment of diseases of the lungs. In such diseases, one of the objects should be, to alter the constitution to a state in which it can support confined breathing. This may be done, by diminishing the quantity of the blood, and the number of its red globules. For we have every reason to believe, that the changes effected in the lungs are proportioned in degree to the proportional quantity of blood in the body, and its relative richness in red globules. Such at least is very remarkably the fact in different tribes of animals. Prevost and Dumas have found that the blood is most watery in the cold-blooded animals, richer in the mammalia, and richest of all in birds. The required change may be effected partly by rigid abstinence; but this mode is too slow. The most effectual is the diminution of the quantity of the blood by venesection. The lost volume is soon supplied by the absorption of water, and a thinner blood is formed; as Prevost and Dumas have estab-

lished by actual observation. These views would afford a beautiful explanation of the effects of blood-letting in relieving many of the symptoms both of pulmonary and of other inflammatory disorders; but our limits will not permit us to deviate from our author's course.

The last application we shall notice is one probably of some importance, relative to the treatment of asphyxia. Dr. Edwards has found, that when the respiration becomes confined from any cause, so as to endanger life, the demand upon this function may be diminished and life in consequence prolonged, by diminishing the temperature. Hence he is inclined to disapprove of the unlimited use which some persons make of external heat in the treatment of asphyxia. The temporary application of brisk heat may be advantageous by the sudden excitation it causes; but too long a continuance of it, especially in those varieties in which the bodily temperature is not materially diminished, and, above all, after the breathing has been partially re-established, may be injurious by increasing the demand of the constitution for a still freer supply of air. He considers these views peculiarly applicable to the treatment of still-born children; and suggests, that the immersion of the body in warm water, so often practised with success, ought never to be continued after the breathing has begun.—*Edin. Med. and Surg. Journal.*

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## II. SURGERY AND MIDWIFERY.

### MR. RENNIE on Scrofulous Ulceration.

Among the various topical applications in cases of scrofula, that have been, from time to time, suggested, I am inclined to believe that the efficacy of plasters, containing certain stimulating ingredients, has not been sufficiently appreciated. I allude, in particular, to applications composed of pitch, which, in numerous cases of indolent scrofulous ulceration under my own immediate observation, have been productive of decided and permanent benefit; insomuch, indeed, that open ulcers, of a very obstinate and intractable description, have immediately assumed a healthy character, and speedily cicatrised.

Having witnessed, in several instances, the beneficial effects of pitch as a stimulating and detergent application to foul and indolent sores of this description, it seemed to me that this substance might be conveniently formed into a plaster of such consistency as to combine pressure with the pecu-



liar qualities of the pitch ;\* and that this form of application might be useful in counteracting relaxation of texture, in supporting loose and incoherent granulations, and in promoting absorption of indolent tumours.

Pressure in indolent scrofulous sores has been recommended, particularly by Burns and other surgical writers, undoubtedly on the soundest principles. It has, however, appeared to me, that the common adhesive plaster is very unsuitable to the purpose. By being spread on calico, it is apt to exude through the pores when heated ; and when cooled it becomes stiff, hard, and unyielding, and is thereby liable to irritate the ulcerated surface. Pressure, in order to be beneficial, ought to be perfectly equable ; and for this purpose, the plaster with which it is effected, besides being free from all inequalities of consistency, ought to retain a certain degree of softness and pliability, at the ordinary temperature of the part.

In tumours, as well as indolent and relaxed superficial ulceration, it is not so much pressure as compressure that is efficacious. Plasters, used with this view, ought to possess adhesiveness, as well as tenacity, in the greatest possible degree.†

The substance on which they are spread ought to be perfectly soft, pliable to a certain degree, elastic, and of such thickness and consistency as not to imbibe the ingredients of the plaster. In applying narrow strips of adhesive plaster, overlapping each other on the surface of relaxed and disordered texture, a degree of irritation is liable to occur, however carefully the pieces are adjusted. By using soft white leather, shaped in one piece, so as completely to cover the sore, this disadvantage is obviated.

The following compositions, after experimental trials made at my suggestion,‡ have been found to combine, in the greatest perfection, the requisite qualities as above described:—

\* That pitch possesses peculiar qualities in respect of scrofulous ulceration, seems to be indicated by various concurrent observations : the beneficial effects derived from tar-water ; from fumigation with tar and resinous substances in phthisis ; as well as the results now noticed, as arising from its application externally. This evidence, though not decisive, is enough to stimulate to farther observation.

† Where dispersion of a tumour is the object, level pressure, perhaps, is the more advisable. Where it is desirable to induce suppuration, soft compressure, so as to occasion a degree of suction towards the apex, is more proper, as tending to concentrate the suppurative action towards a point, and limit materially in extent the solution of texture.

‡ By Messrs. Waugh, Chemists, Regent street.

*I. Medium.*

R Picis Nigræ, p. j.  
 —Liquidæ, p. iss.  
 —Resinæ, p. ij. M. ft. emplastrum.

*II. Soft.*

R Picis Liquid. p. iss.  
 —Nigr. p. j.  
 —Resinæ, p. j. M. ft. emp.

*III. Hard.*

R Picis liq. p. iij.  
 —Resinæ, p. iv. M.

*IV. Solid.*

R Picis Nigræ, p. j.  
 Emp. Resinæ, p. j.  
 —Ceræe, p. iij. M.

To be heated and spread at the time of application, not, however, too thinly. The best thickness seems to be from one to two lines.

However inelegant these compositions may appear, I have it in my power to say that I have seen more decided and permanent effects from their judicious application in scrofulous cases, than from any other topical means whatever.

With regard to constitutional treatment in cases of scrofula, I may be allowed to remark, that in my experience the exhibition of calomel in minute doses, frequently repeated, a practice recommended by some eminent Practitioners, is in an efficient, and indeed, unsuitable method of procedure. The mercurial, not being in doses sufficiently active to carry itself off, or clear out offending matter, remains in the system, exciting the mercurial irritation; and notwithstanding a protracted course, accumulations of morbid fæcal matter are frequently found to exist. The exhibition of tonic remedies, along with what are called alterative mercurials, is calculated materially to aggravate the evils.

It appears to me that the greatest benefit is derived from calomel, when prescribed in adequate doses to excite considerable activity, both of the secreting and peristaltic functions, and followed, within eight to twelve hours, by such other aperients as completely to evacuate the intestinal canal.

This active operation will not bear to be repeated oftener



than once in four to six days. One advantage is gained by delay, that the constitution has time completely to recover from the mercurial irritation and the depressing effect of copious evacuation, whilst morbid accumulations are sufficiently obviated.

So long as the discharges continue unhealthy, perseverance in aperient measures is the chief indication. To obviate unpleasant effects from the continued use of active mercurials, it is advisable, after the few first repetitions, to interpose mild doses of rhubarb and soda, or magnesia, prescribing mercurials only once in six to twelve days, as occasion requires.

It is advisable to administer mercurials only in mild, and especially dry weather. The importance of this remark has been fully exemplified during this last year, 1824,—perhaps, on the whole, the most moist, rainy, and variable season within memory. The greatest inconvenience has been complained of, in general experience, from the use of calomel, the most cautious doses being frequently found to occasion violent tormina and tenesmus, in a manner so capricious as no foresight could anticipate. Such an unaccountable effect has induced a pretty general suspicion of some error in the preparation of that medicine. This supposition I believe unfounded: indeed, by trials purposely made, I have observed the same parcel produce different effects on different constitutions, and on the same individual at different periods; and have been led to ascribe the distressing effects sometimes experienced, in a great measure, to the degree of atmospheric moisture. This inference has been supported by observing precisely similar effects from pil. hydrarg., and even mercurial inunction, under similar circumstances, at the same periods, and on similar changes of the weather.

The abdominal distension occurring in debilitated scrofulous constitutions appears to proceed, in many cases, principally from relaxation and distension of the muscular texture of the alvine viscera. It is on the power of counteracting this condition that the efficacy of tonic remedies seems to depend.

In judging of the proper indications for the exhibition of tonics, it is requisite to estimate aright the cause whence proceeds that relaxation they are intended to restore.

It appears to me that the distension of the alvine viscera in question is dependent, in a great measure, on a peculiar disordered condition of the hepatic functions, consisting not of acute inflammatory action, nor of permanent alteration of structure, but of vascular congestion and inactivity of the vital functions,

dependent on diminished vital power, together with suspended, irregular, or depraved biliary secretion.

It is on the power of correcting this condition that the beneficial effects of mercurials depend; and in most instances the consequent tumidity of the abdomen subsides on the removal of the cause, as a matter of course.

That a depraved condition of the alvine secretions, and accumulations of morbid and irritating products, arising from undigested food or retained *fæcal* matter, are associated with, and contributive to, the disordered functions of the alvine viscera in question, is a fact well established.

So long as either of these sources of disorder continues uncorrected, as indicated by coated tongue, tenderness in the epigastric or hepatic region, distension of the abdomen, deficient peristaltic activity, or unnatural alvine discharges, tonic remedies are inadmissible. These indications are noticed particularly, not because they have not been hitherto recognised in principle, but because not a few instances have met my observation in which tonic remedies have been prematurely and injudiciously recommended—an error proceeding, in a great measure, from want of due attention to the indications for their use.

Notwithstanding the general debility so invariably attendant on the scrofulous state of the constitution, I am convinced that the administration of this class of remedies is much seldom advantageous than is perhaps supposed. On the restoration of healthy hepatic and alvine functions, it is surprising how speedily the youthful constitution regains vigour, and every symptom of debility and relaxation disappears. As conducive to this effect, the sedative and invigorating influences of pure air, moderate exercise, equable and warm clothing, and generous diet, are unquestionably of the first importance. Where these requisites are possessed, tonic remedies are less necessary; and where these advantages are not enjoyed, they frequently do more harm than good.

The benefits to be derived from the tonic system, with invigorating diet, are not unfrequently lost by pushing them farther than the constitution can bear. When the alvine and hepatic functions have been much and long disordered, there is always a great tendency to relapse on discontinuing alteratives and evacuants; and if, in such circumstances, tonics and full diet happened to be persevered in, biliary and *fæcal* accumulations, fever, oppression, and debility, are the natural consequences.

This result may be obviated by delaying the tonic system



till a due course of evacuating measures has effectually restored healthy alvine functions, and thereafter by exhibiting tonics and invigorating diet in very short courses.

The system generally found most suitable has been to administer an alterative mercurial every sixth night, and a full purgative next morning; for two days thereafter tonics; the third evening or morning a mild aperient of rhubarb, with alkali or magnesia; then tonics for two days, or, at most, three: after which, the alterative and purgative as before.

Perhaps the sulphate of quinine possesses more power in allaying irritability, and counteracting that febrile diathesis depending on stomachic atony, than any other tonic at present known. Under its use the pulse is seldom accelerated; but rather diminished in frequency and increased in tone; nor does there ensue from its use that gastric tightness and oppression, with headach and costiveness, which so frequently attend the administration of bark in substance, or gentian, quassia, and other bitter tonics. Combinations of the sulph. quininæ with aperients, aromatics, camphor, or ipecacuanha, may be advantageously adapted to existing circumstances.\*

In regard to the topical treatment of scrofulous sores, the plasters applied may vary in consistence, according to circumstances and the degree of compression requisite. Where there is much obstinate foulness of surface, one or two dressings with ung. hydr. nitr., or ung. hydr. nitr. oxydi, generally suffices to restore a clean, red, and granulating surface: immediately after this is effected the compressing plasters should be renewed.

Too frequent change of dressings, excepting where the discharge is offensive and copious, is seldom advantageous, appearing to disturb the granulating and cicatrising process. Once in from two to six days may be proper, according to circumstances.

The soft pitch plaster, applied to indolent scrofulous glands, is the most speedy and effectual method I know of in inducing a healthy and circumscribed suppuration, without that relaxation of texture and consequent indolence of healing action which attends the use of fomentations and poultices. In not a few instances under my immediate care, tumours of considerable size have been in this way discussed, and in others

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\* In the hectic of phthisis, I have prescribed the sulph. of quinine with the best effects in counteracting the fever and perspirations, and restoring the general vigour, in combination with sulphuric acid, camphor, and vin. ipecacuanhæ.

brought to terminate in a small, central abscess, which ultimately, by attentive compressure, has healed up with a cicatrization scarcely perceptible. In the first stages of tumefied glands, where there is much heat, redness, tenderness, and tension, leeching and evaporating lotions, with active constitutional treatment, are had recourse to. If by these means the tumours are not reduced, and wherever they have a tendency to assume the chronic character, level pressure with the firmer adhesive pitch plasters is used with the view of discussion. As soon as this appears impracticable, and suppuration unavoidable, the softer plasters of pitch are applied to induce a speedy and limited suppuration, and seldom fail.

In various hopeless cases of scrofula of the knee-joint, I was induced to try the present application. At first, I proceeded with much caution, doubtful how far the stimulating effects of the pitch might not induce inflammatory action. In no instance has this result ensued.

In the first case I made the application very partially, covering four inches of surface on the exterior of a knee-joint very much enlarged, of two year's standing, and rapidly making inroads on the constitution of the sufferer, a child about the age of six. Several eminent Practitioners, who had been consulted, had expressed their opinion that no hope existed excepting in amputation. Within eight days after the application, a suppurating abscess formed on the part, of a healthy aspect, without irritation or uneasiness. The discharge was considerable, the surrounding integuments subsiding to a level; and within two to three weeks, the ulcer had cicatrised over, the integument appearing to have contracted from adhesion to the parts beneath, insomuch that the part could be handled without pain.

The remainder of the knee was now covered with the plaster, and compressed as tightly as could be borne. The size, in a short period, was very much reduced; the extreme tenderness so much alleviated, that the child could make more use of it than for many months previously. Here the case continued stationary some weeks. At this period, from a slight twist of the knee, the aperture of a sinuous ulcer of old standing, beneath and in front of the patella interiorly, began to discharge some blood, which gradually changed into sanious matter, evidently from the disorganization of the bone. The health, from change to a town residence and confinement, began also to decline, and the result, as might be expected, is not likely to be favourable.

In this case, enough transpired to shew that this application



to the scrofulous knee-joint is, at least, free from any danger of inflammation; and as the livid, unhealthy hue of the old ulcerated aperture was speedily converted into a bright red, and healthy aspect, with evident amelioration of the discharge, there is reason to regard this mode of treatment, uniting the superficial stimulus of the pitch with mild equable compression, especially if applied early, and combined with every possible advantage, as meriting more extensive trial.

Nearly the same application, indeed, was made in one other case, in which the result was as favourable as might be desired. The knee-joint was regarded as so much disordered, that amputation was considered to be the only remaining resource. The case, however, ultimately recovered, with an anchylosed joint.

Of a very considerable number of cases of a more simple description, consisting of scrofulous ulceration and tumours, some of which were of long standing and extremely intractable, these applications have been uniformly and decidedly beneficial: indeed, not one case has hitherto occurred, in which, with adequate constitutional treatment, the sores have not been, in a comparatively short period, entirely cicatrised.

The permanence of the cure depends, of course, on the favourable circumstances in which the patient is subsequently placed, and on the efficacy of the constitutional remedies adopted. In some few cases, from slight causes, the sores began again to discharge; and from the low vitality of the cicatrised surface, rapid extension of the ulceration naturally ensued. In all of these cases, recourse to the constitutional and topical measures, as formerly, was found successful.

One great advantage derived from the careful compressure of an ulcerated surface by these plasters, is the prevention of deformity after the parts are healed. In most of the cases where the plasters have been applied with care and assiduity during the cicatrising process, the scars are very trivial.

These results have been sufficiently numerous and striking to induce me to suggest to more general experience the means, simple as they are, by which they have been effected.

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## III. PATHOLOGY AND THERAPEUTICS.

DR. NEUMANN'S *Cases of Mental Alienation.*

Nobody, since Herophilus and Eristratus, doubts that the encephalon is the organ of the perceptions; but no one has yet demonstrated what passes in the brain at the moment when a person conceives any certain idea. We know not even whether a *material* movement takes place in this organ whilst we entertain a sentiment, investigate a proposition, or originate an act of volition. The organic condition of the faculty of making representations to itself, or entertaining ideas, is an action of the encephalon: all the world knows this, but it knows absolutely nothing respecting the nature and particular form of this action. To think is not to form; and no act of the organic life, no new condition of a living production, is necessarily united with a change of the nervous energy or form. The brain sees by means of the eye, hears by the ear; but neither in the one nor in the other does it operate simultaneously with the perception a change or formation perceptible to the senses. The impulsion emanating from the encephalon moves the muscles, but neither in the former nor in the latter does volition leave behind it a durable trace of its passage. It is even still less possible to trace in the brain what sources of recollection, what force of association of ideas, what treasures of science it may have possessed during life: the organ of thought of a Schiller is that of a Peschraeh, presenting absolutely the same forms.

The encephalon of man has not even an uniformly decisive superiority over all the mammiferous animals: that of the mouse, for example, is, relatively to the rest of its body, as great as his: and, amongst the feathered tribes, there are some whose encephalon is larger in proportion than our own. There is not even a single small organ to distinguish the encephalic mass of the human subject from that of the ape: all the difference consists in the different relation and degrees of the development of some of the encephalic parts. We are still less permitted to infer that a sound brain can alone give rise to sound perceptions, and that a diseased brain can only originate morbid ideas. For we see the greatest structural derangement of the brain, such as steatomatous tumours, supurations and abscesses, mechanical lesions, deformations of the cranial cavity, &c. without the faculty of the representations being deranged by them. However, if the perceptions



or representations be morbid, it does not necessarily follow that the cause resides in the organ; for the disorder will not injure the intellectual energy, but rather the body to which it is attached. It is thus we ought to consider the subject, and it was with this opinion that the following dissections were prosecuted:—

*Case 1.*—A. W., watchmaker, thirty-five years of age, had been affected for three months with violent mania, the origin of which is unknown to us. He was cheerful, indulged in composing rhymes, associated the most bizarre and crude ideas with admirable promptitude, sung and whistled constantly, seldom slept, recited sometimes long tirades of French poetry, chiefly from Racine, although he scarcely knew any of the language, and was never in France; in his boyhood only had he received some lessons of French. The patient was attacked with tubercular consumption whilst in this state, of which he died two months after his admission into the hospital.

The cranium presented nothing particular: the encephalon filled completely the cranial cavity. The meninges were sound. The structure of the cortical and medullary parts of the brain was healthy. The fourth ventricle contained much colourless fluid; and when the body was inclined, a considerable quantity of serosity proceeded from the spinal cavity.—Both the lungs were full of tubercles—some were in a state of suppuration. The heart and abdominal viscera were natural.

*Case 2.*—Chr. R., a manufacturer, aged fifty-one, was seized with apoplexy in April 1819, without paralysis of the limbs, but with loss of memory, of judgment, and of speech. A second attack of apoplexy terminated his life in June.

The cranium was natural. About an ounce of blood was affused on the two hemispheres, between the dura mater and arachnoid. White gelatiniform exudations between the arachnoid and pia mater. The vessels of the pia mater somewhat gorged with blood. Both the lateral ventricles contained much serosity. As the brain was intimately connected with its membranes, in the situation of the petrous portion of the right temporal bone, and as the dura mater adhered more intimately at this part, a closer inspection was directed to it. We found the whole of the osseous part of the organ of hearing carious, but only in a moderate degree. Pus had made its way through the fissure of Glaser, and into the tempero-maxillary articulation, the capsular ligament of which it had destroyed.

*Case 3.*—J. W., aged forty, a labourer, formerly addicted to

the use of spirits, was admitted, in a state of violent frenzy. He died five weeks afterwards, in a state of stupor, which was preceded by symptoms of apoplexy but slightly marked. The first appearance of the disease was during a violent fit of passion, whilst in a state of inebriety.

The cranium was regularly formed, but thick. Several adhesions existed between the dura mater and the arachnoid, which was thickened. Under the latter membrane the convolutions were covered, here and there, by abundant exudations of lymph. The lateral ventricles were full of serum, and the encephalon every where devoid of blood.

*Case 4.*—J. N., an Hungarian, aged sixty, and an old soldier, had been in the hospital for lunatics for twenty-one years. He had long been one of the class of incurables, who performed quietly the task imposed on them, were troublesome occasionally, but generally in good humour, enjoying their disordered conceptions and tales. They have been improperly considered as forming a class distinct from lunatics: they are, however, always completely deprived of reason; that is, they are truly maniacs, although the relation of the faculties of *representation* with each other is not more deranged in them than it is at the commencement of every case of mania.—They are, consequently, like animals, with the exception of the form and speech; and those of their intellectual faculties which are correspondent to the *representative* faculty of animals are executed without derangement.

In this case the cranium was every where much thickened, but chiefly behind, where the bone was nine lines in thickness. In the course of the sagittal suture, at the side of the falx cerebri, between the arachnoid and dura mater, existed isolated points, formed of a white cretaceous substance. The cerebral vessels were empty, and all the ventricle full of serum. The consistence of the encephalic mass seemed to be greater than natural.

*Case 5.*—D. S., a baker, aged thirty-one, was admitted in the following state:—Muscular movements regular; visage much lengthened; stammering; intellectual faculties all much enfeebled—a state of symptomatic idiotism. He died six months after his reception into the hospital, in a state of general paralysis, the consequence of several attacks of apoplexy.

The encephalic vessels only were found gorged with blood, the surface of the brain covered, here and there, with exudations of lymph, chiefly in the vicinity of the falx cerebri. A



considerable quantity of sanguineous serum was in the left lateral ventricle.

*Case 6.*—A female, aged twenty-nine, died of hectic fever, after an illness of thirteen months' duration. A violent moral affection had thrown this woman, who possessed a highly cultivated mind, into a state of stupor, which terminated in the extreme degree of idiotism.

The cranium was thickened; the encephalon flabby. The cranial cavity was not entirely filled by the encephalic mass. The convolutions of the cerebellum extremely small—nothing otherwise remarkable.

*Case 7.*—C. B., a carpenter, aged fifty, admitted without information of the origin or duration of his disease. He spoke seldom, and then only a few words, which had some relation to the questions put to him. His air was sombre, his brow contracted, his look downcast; and he refused to eat unless when forced. He died, in the course of three months, of hectic fever.

There was not the least irregularity in the form of the cranium and encephalon, nor in any of its parts; and still less in its meninges. The cerebral vessels were devoid of blood, the lateral ventricles quite empty. A number of the mesenteric glands were hardened and enlarged. The stomach, which was very small, presented a bluish and reddish colour in its internal surface: the pylorus was almost entirely obliterated.

*Case 8.*—J. H., Surgeon, aged twenty-eight, had been affected by a sombre and profound melancholy, into which he had fallen in consequence of humiliations which had followed ill-founded pretensions. He cut his throat, and died three days afterwards.

The cranial cavity natural; the adhesion of the dura mater to the bone being only more intimate than usual. The pleura full of water; the lungs tuberculous, in some parts. The intestines contracted into a narrow space, particularly the small intestine: the liver much darker, and of a bluer colour than ordinary.

*Case 9.*—A female, aged forty-three, of a nervous temperament and extremely susceptible, was subject to hysteria, after thirteen accouchements, and much disappointment. She was treated by blood-letting: the disease increased, and was attended with a burning sensation in the abdomen, and extreme anxiety: symptoms that did not yield to any treatment. After six months of suffering, and after more than twenty attempts at suicide, the patient succeeded, in one of her tranquil

periods, to elude the vigilance of her attendant, and hung herself in an obscure corner of the apartment.

Cranium sound ; the encephalon the same, its vessels filled with blood ; the ventricles nearly dry : the pineal gland almost filled with gravelly matter. Close adhesions between the pulmonary and costal pleuræ : the lungs sound in other respects. The heart was enveloped in much fat ; very little serosity in the pericardium ; the right auricle and ventricle filled with red blood, as well as the left ventricle. Liver very large, of a pale yellow colour, but otherwise sound. The stomach much distended, but empty. The other viscera natural.

*Case 10.*—C. S., a postillion, aged thirty-two, became maniacal without any evident cause. Blood-letting, cold affusions, and laxatives had nearly reduced the disease, when he suddenly fell into a state of idiotism. He remained in this state two years. He died after the supervention of colliquative diarrhœa.

The cranium was extremely thick, chiefly behind. The dura mater was very easily detached from the bones, to which it scarcely adhered : on puncturing it, a considerable quantity of serum escaped. There was no trace left of the arachnoid : a whitish gelatiniform mass occupied the whole space between the dura mater and encephalon, the convolutions of which were compressed. All the ventricles were gorged with serum, the encephalon flabby, and extremely soft, the cortical substance of a white tint, and water flowed over all points of its surface. There was nothing unusual observed in the thoracic and abdominal cavities, excepting that the omentum was very fat, although the rest of the body was extremely emaciated.

*Case 11.*—A female servant aged thirty, was brought into the hospital in a state of sombre melancholy, in consequence of disappointed expectations. She died of inanition, owing to her obstinate refusal of aliment.

The body had remained four days, before it was opened, during a temperate state of the atmosphere, and yet the encephalon was excessively hard and compact ; but without any other alteration. The lungs were tuberculous : some tubercles had advanced to suppuration.

*Case 12.*—A female, aged twenty-six, was seized with violent headach immediately after delivery. The pain was remittent, but the attacks became redoubled in violence. Recollection, at last, was lost during the accessions of pain, and, in the intervals, exhaustion and indifference were manifested



to every object : the patient was careless of her child : but, strictly speaking, there was no mental alienation. Vomitings occurred during the paroxysms, which terminated in death.—The pulse was not accelerated at any period of the disease.

The vessels of the dura mater were gorged with blood ; but those of the pia mater were pale and empty. The right lateral ventricle was neither distended nor contained any serum : the left lateral ventricle, on the contrary, was greatly distended, and contained above two ounces of serum. Behind and beneath the tubercula quadrigemina of the right side was found, in the substance of the brain, a steatomatous tumour as large as a nut, which reached, at its inferior surface, the posterior part of the petrous bone of the right side. Here was observed some pus : the dura mater was discoloured, adhered firmly to this part of the temporal bone, which latter part was affected with caries. On dividing this part, the caries was observed to have extended to the interior of the organ of hearing of this side.

*Case 13.*—A man, aged fifty-four, an old soldier, had slept in the sun after fatiguing work in the fields, and wakened in a state of delirium, which soon reached the utmost intensity.—He had violent fever, with all the symptoms of encephalitis. Suitable means were used to remove the disease ; but he became an idiot : the torpor of his faculties increased, and he became generally dropsied : the more this dropsy increased, his memory and judgment were the more restored ; and his faculties did not again forsake him until his death. This state of dropsy continued about four weeks.

The dura mater and arachnoid were united into a single membrane, which adhered firmly to the cranium. There was much water effused beneath the meninges, and also in the ventricles. The substance of the encephalon was softened throughout.—*London Medical Repository.*

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#### Mr. Scot on the *Treatment of Epidemic Cholera*.

Nothing more distinctly shows the intractable nature of a disease, than the recommendation of a multitude of specifics ; and this has been strikingly the case in cholera, the progress of which, at a certain stage, has sometimes been arrested by the most opposite, or apparently the most trifling remedies ; and it was observed by practitioners, that, after the first appearance of the disease, the remedies, which they had formerly found

successful, were afterwards totally unavailing. The general indications of cure appeared to be two,—namely, to moderate inordinate action, and to support or restore depressed actions; but, as it was soon found that these indications could not be fulfilled by the remedies prescribed, a great diversity of opinion and practice followed. This perplexity was increased by the different prevailing types of the disease, and it is only of late that the necessity of its treatment upon general principles appears to have been acknowledged.

*Opium* stands first upon the list of those medicines which were employed to calm gastric irritation and subdue spasm; and, when given at an early stage of the disease, its effects were decidedly successful, and this more particularly among the natives, whose simplicity of living renders them less liable to complicated forms of disease. The appropriate dose of this medicine it appears not so easy to ascertain. From eighty to one hundred drops of the tincture, and from two to four grains of solid opium, was the dose most usually exhibited; but, as we may suppose, with many practitioners the quantity employed was sometimes much greater, and in some instances not so great; but the first doses were usually given in the liquid form, and the subsequent ones in the form of pills. It is no imputation upon the virtues of opium to acknowledge that it has often been given in vain, and that many cures have been performed without it; but we may, in general terms, remark, that those cases may most confidently be trusted to opium, in which the stomach and intestines are chiefly affected, as indicated by vomiting, pain in the epigastrium, or purging. Upon the whole, we are not to consider opium as a specific in cholera, but as an auxiliary of the first importance.

Of *ether*, *ammonia*, *musk*, *camphor*, *castor*, &c. we may shortly remark, that, in conjunction with opium or calomel, many of these remedies have been found useful; but the period at which they can be safely employed, is extremely limited: after a certain time, the stomach appears to be no longer sensible of their action.

*Wine* and *spirits* have been exhibited very extensively in this disease. The same remarks apply to the exhibition of these stimuli as to that of opium; and, with reference to this practice, Mr. Scot very judiciously observes—"The extent to which they should be given has not been sufficiently considered, with a reference to the actual state of the patients, and to the laws of excitement, as far as they are generally understood and admitted. If the collapse in cholera be the effect of a direct diminution of the capability of an organ to be affected by



stimuli, we should commence by doses large in proportion to the supposed degree of this diminution; and we should decrease them according to the progress made in restoring excitability: but, if the collapse be merely owing to a want of natural stimulus, the doses should be small in the commencement, and increased gradually."

Some few practitioners, we are told, abstained entirely from the use of ardent spirits, from a belief in the inflammatory nature of the disease: but their practice does not afford any justification of this view.

In administering *calomel* for the cure of cholera, different indications have been followed: it has been given as a mode of quieting irritability, of emulging the biliary vessels, of restoring the balance of the circulation, and sometimes without any reason at all. The result of experience, however, shows that this medicine does not possess any specific virtue in the cure of this disease: the success of those practitioners who did not employ it has been fully as great as those who did, whilst the arguments brought forward against its *early exhibition* appear conclusive; and it is only when a favourable change has taken place, and the ordinary functions are renewed, that *calomel* is clearly indicated.

*Blood-letting* next claims our attention, a remedy as it would appear, of the first importance; and yet, observes Mr. Scot, it requires no common effort of reasoning or reflection to arrive at the conclusion, that, when the powers of life appear depressed to the lowest degree, the pulsation of the heart all but extinct, the natural heat of the body gone, and the functions of the system suspended, the abstraction of blood might yet prove a remedy against a train of symptoms so desperate. Bleeding was at first employed in cases where there was much spasm; and, dissection showing often a loaded state of the vessels of the viscera, it was adopted also to remedy this condition. When syncope was brought on by venesection, it was generally favourable; but the information as to the manner in which it was performed, or the quantity taken away, appears to be defective, though its utility is most generally and unequivocally admitted. It is remarked that fatal collapse has sometimes followed bleeding, but more frequently after the abstraction of a *small* quantity of blood; for, if the evacuation is persevered in until the effects reach the internal vessels and the heart itself, then the circulation

seems to be freed from an oppression which impeded its functions.\*

Such is the theory which has been adduced in support of blood-letting in cholera ; and, if true, the supervention or presence of collapse, so far from deterring us from going on, should only be regarded as additional reasons for renewing our efforts to get blood. This is supported and confirmed by many apposite quotations from the Reports, which to us appear perfectly conclusive on this subject ; and the only difficulty attending the practice relates to the almost impossibility of obtaining a sufficient quantity of blood : but the operator must call to his aid the use of frictions, hot water, internal stimuli ; he is not to be deterred by any immediate accession of debility, nor is he to be satisfied with a temporary amelioration of the pulse ; for, if he can freely unload the internal vessels, he will probably save his patient ; if he fails, he will most probably lose him. The principle is, that, in cholera, collapse is not the consequence of loss of blood, but that it is a condition only to be relieved by its abstraction. Nevertheless, we are taught not to rely solely on this remedy, but to use it in conjunction with others. The Medical Board have, in their circular letters, advised the exhibition of antispasmodics and stimulants *prior* to the use of the lancet. When general bleeding fails, topical blood-letting may be resorted to.

Of external remedies, the *warm* and *vapour baths* are first mentioned, but they were not found to afford the relief anticipated from their use ; in the formidable cases especially (those of collapse,) no advantage was gained : nay, the patient, at the time that his skin was deadly cold, would frequently complain of a moderate degree of heat as scalding and intolerable.

*Dry heat*, by means of bags of heated salt or sand, have also been occasionally employed with good effect, assisted by frictions of rubefacient and stimulant substances ; but our author is of opinion that *sinapisms* have not been so extensively nor so early employed as they might have been.

*Vesicatories*, either of cantharides or of boiling water,—the application of *mineral acids* to the skin, over the region of the heart, or upon the abdomen, have often been employed with good effect, though the state of the skin, especially in an ad-

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\* It may be remarked, that the favourable opinion of the effects of blood-letting, as described by Mr. Scot, coincides with that of the author of a paper which appeared in this Journal a few months ago.



vanced state of the disease, renders their action very uncertain.

*Emetics* and *purgatives* are next mentioned. Of the former, the tartrate of antimony seems to have had its advocates, but latterly its employment has been abandoned. Mr. Scot seems to think that a combination of emetic substances with opium may be found more useful. With respect to cathartics it would seem that their utility has its supporters, and is said to deserve further trial. Castor-oil, combined with laudanum especially, has latterly been used, in cases of natives, with very considerable success; but there is more difference of opinion as to the period when the purgatives ought to be administered,—some recommending them merely to obviate the sequelæ of the disease, whilst others prescribe them early.—That medicine which does not produce a watery purging is considered the best. Infusion of senna, with gentian or ginger, the various cathartic extracts, the tincture of aloes, with myrrh and benzoin, &c. are recommended as the most appropriate.

Of the benefits derivable from *clysters*, there is no precise information afforded us.

The interdiction of diluents or drinks in cholera, was general in the first invasions of the disease, notwithstanding the urgency and intenseness of the thirst by which it is attended; but our author sums up his remarks upon this point by observing, that tepid, diluent fluids should be freely, and even, largely, given in cholera, especially at the commencement of the attack, where the stomach is yet active; and that the experience of many practitioners warrants the safety of using drinks acidulated either with the mineral or vegetable acids. The administration of food resolves itself into two or three simple rules, rather to combine it with diluents in the form of sago, arrow-root, barley, or rice; and, in ordinary cases, we may begin to give nourishment, independently of these drinks, as soon as the disease appears to have yielded.

The general rules that follow are such as are applicable to convalescents in general, and we, therefore, need not repeat them.

It is of the greatest consequence in cholera to husband the patient's strength, and, therefore, all exertion of the muscles of voluntary motion should be avoided; a task of much difficulty, where the sensation of restlessness is so distressing.

We have thus gone through an examination of Mr. Scot's Report, compressing as much as possible the valuable matter it contains into the compass of a few pages, and only lament-

ing that our limits will not permit us to give any extracts from the many able Reports that fill up the remainder of this volume.—*London Medical and Physical Journal.*

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#### IV. MATERIA MEDICA AND PHARMACY.

##### *Active Principle of Belladonna.*

M. Runge has ascertained that the narcotic principle of Belladonna is destroyed, or so changed, by alkaline solutions, as to lose its distinguishing property of causing dilatation of the pupil: this takes place when the solutions are weak, or even with lime water; so that this principle cannot be obtained by the usual process, alkaline substances being used. Magnesia, however, was found not to exert any action of this kind, and may, therefore, be resorted to in the process, but it is very advantageous to use it as a hydrate, and not calcined. It should be thrown down from sulphate of magnesia by potash, not in sufficient quantity to decompose the whole of the salt, the mixture added to the aqueous infusion of belladonna, and the whole evaporated by a brisk fire to dryness; the residue, which is readily dried and pulverised, is to be treated with highly rectified boiling alcohol. The clear yellow solution is to be evaporated spontaneously, and a crystalline mass is obtained, which slightly blues reddened litmus-paper, dissolves in water, and produces extreme dilatation of the pupil. The salts formed by it with sulphuric, muriatic, and nitric acids, also produce the same effect on the eye.—*Annales de Chim.* xvii. 32.